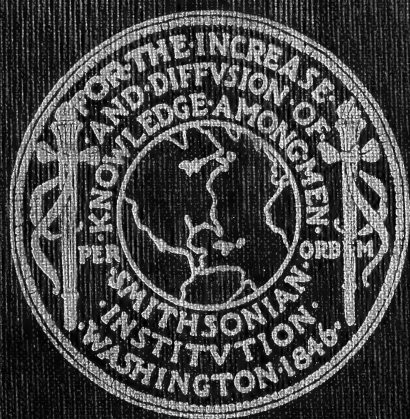


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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM

REPORT ON THE
PROGRESS AND CONDITION OF THE
UNITED STATES NATIONAL MUSEUM
FOR THE YEAR ENDED JUNE 30, 1949



UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1950

UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., October 15, 1949.

SIR: I have the honor to submit herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ended June 30, 1949.

Very respectfully,

REMINGTON KELLOGG,
Director, U. S. National Museum.

Dr. A. WETMORE,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE FISCAL YEAR ENDED JUNE 30, 1949

By REMINGTON KELLOGG

Director of the United States National Museum

INTRODUCTION

DURING the fiscal year 1948-49 the United States National Museum was allotted \$748,760 from the funds appropriated by Congress to carry on the operations of the Smithsonian Institution and its branches. This allotment included \$36,200 for printing and binding, the remainder being used for salaries and expenses required for the preservation, exhibition, increase, and study of the national collections of anthropological, zoological, botanical, and geological specimens as well as materials illustrative of engineering, industry, and history.

On July 31, 1948, Dr. Ray S. Bassler, a member of the Museum staff since August 1, 1913, retired as head curator of the department of geology, and his successor, Dr. William F. Foshag, was appointed on August 1, 1948. The division of history was raised to the status of a department on August 16, 1948. Charles Carey, who received his first appointment to the Museum staff on November 2, 1920, was named acting head curator of the department of history. The functions of this department were allocated to five divisions. Mendel L. Peterson was designated acting curator of military and naval history, Miss Margaret W. Brown was appointed acting curator of civil history, and Mrs. Catherine L. Manning was placed in charge of the philatelic collection. With the appointment of Stuart L. Mosher on August 27, 1948, as acting curator of numismatics, the initial reorganization of the department of history was completed.

The curatorial and research work of the Museum continues to be retarded by lack of adequate laboratory and office space for the professional workers and of storage space for proper handling of the collections, by insufficient supplies and equipment for the normal operation of the Museum's activities, and by the shortage of personnel in several divisions.

The acute space problem, especially the overcrowding of material, both in the exhibition and the study collections, has been emphasized in

previous reports. Wings at each end of the Natural History Building have already been authorized by Congress, and it is hoped that funds for their construction may be appropriated whenever the public-building programs are initiated.

The Arts and Industries Building, constructed in 1883 on the south side of the Mall, has been overcrowded for some years and is no longer adequate either for the display or for the normal expansion of the industrial collections. Space requirements for exhibition, storage, and staff in a new Engineering and Industries Building to replace the antiquated Arts and Industries Building have been reviewed annually. Estimates for a separate building for American history have been made for authorization by Congress. These historical collections, which are viewed annually by a million or more visitors, are now displayed in the crowded halls of the Arts and Industries Building.

Collections.—Field work by the staff in South, Central, and North America, New Zealand, and Australia, gifts from individuals and industrial concerns, transfers from Government departments and agencies, and exchanges with institutions in foreign countries have added large numbers of desirable materials to the national collections. This steady flow of valuable specimens into the Museum has greatly increased the usefulness of the national collections and, although the preparation, identification, and storage of these materials are becoming increasingly more difficult to accomplish with the present limited staff and facilities, no conceivable justification can be envisaged for rejection of offered accessions of such high importance.

The accessions for the year arrived in 1,807 separate lots, totaling 445,641 specimens (somewhat less than during the fiscal year 1948), and were distributed among the six departments as follows: Anthropology, 4,099; zoology, 279,621; botany, 38,708; geology, 109,499; engineering and industries, 2,610; and history, 11,104. A complete list (by donor) of all accessions received during the year is given on pages 80 to 121.

The outstanding event of the year was the presentation by Milton Wright, of Dayton, Ohio, on behalf of the estate of the late Orville Wright, of the historic aeroplane invented and constructed by Wilbur and Orville Wright and flown by them at Kitty Hawk, N. C., on December 17, 1903. Since 1928 the Wright Brothers' aeroplane had been in the custody of the Science Museum at London, England. After the death of Orville Wright on January 30, 1948, legal concurrence for the shipment of the "Kitty Hawk" plane to Washington was given by the heirs. Dr. Herman Shaw, director of the Science Museum, accompanied the plane across the Atlantic on the *Mauretania* to Halifax, Nova Scotia, where it was transferred to the Navy carrier *Palau* for delivery at New York. A special Navy truck brought the plane from New York to Washington. The formal presentation ceremony

was held in the north entrance hall of the Arts and Industries Building of the United States National Museum on December 17, 1948, the 45th anniversary of the unprecedented flight at Kitty Hawk. Included among the 1,000 or more distinguished guests at this ceremony were members and friends of the Wright families, officials of the executive departments of the Government, Justices of the Supreme Court, officers of the Army, Navy, Air Force, and Coast Guard, and others interested in aeronautics. The Chancellor of the Smithsonian Institution, Chief Justice Fred M. Vinson, accepted the plane on behalf of the Nation, and the formal acceptance address was delivered by Vice President-elect Alben W. Barkley, a regent of the Smithsonian Institution. The British Ambassador, Sir Oliver Franks, chose as the topic of his address "Britain and the Wright Brothers."

For examination and report 1,516 lots of specimens were received, involving the identification of more than 50,000 individual items, the larger part of which was referred to the departments of zoology, botany, and geology. Some of this material was returned to the senders, and some that is especially desirable was retained with the approval of the sender for the Museum's collections.

Gifts of duplicates to schools, museums, and other institutions numbered 36,856 specimens. Exchange of duplicate material with other collections totaled 48,656 specimens, and 634 specimens were transferred to other Government agencies. Loans for scientific study to investigators outside of Washington totaled 70,713 specimens. Seventeen collecting outfits were distributed.

The following summary of the collections has been adjusted to reflect additions to and eliminations from the various series to the end of the fiscal year. A reasonably careful tabulation of the national collection of insects at the beginning of the fiscal year 1948-49 indicated a total of 10,500,000 specimens, which increased the 1947-48 estimate of 6,082,818 by 4,417,182 specimens:

Anthropology -----	755, 193
Zoology -----	24, 605, 016
Botany -----	2, 368, 135
Geology -----	3, 157, 247
Engineering and industries -----	165, 090
History -----	628, 365
Total -----	31, 679, 046

Library.—The Museum library recorded 13,303 publications as permanent additions to its collections during the past year, more than half of which were received in exchange. Purchases included 1,382 books, two special collections of pamphlets on plants and on fishes, and subscriptions for 182 periodicals.

Scientific serials are the backbone of the published source material indispensable to the work of the curatorial staff, and exchange ar-

rangements were made to receive 171 new or not previously received series of these important publications.

Reading and reference use of the library, the true test of its usefulness, continued to be heavy, and interlibrary loans were more numerous than last year. Loans of 2,619 volumes were made to 89 libraries, while the library borrowed 1,457 volumes for its own readers, chiefly from the Library of Congress and from departmental libraries in Washington.

Funds permitted 700 volumes, mostly periodicals, to be sent to the bindery, but inasmuch as these were only a part of the number completed during the year the backlog of binding continued to grow. More than a thousand books were repaired in the library, but here too there is far more work to be done than one assistant can handle. The library suffered badly under the double handicap of a curtailed staff and the ever-increasing overcrowding of the shelves.

Statistics

Accessions of cataloged volumes.....	2, 775
Publications cataloged or recataloged.....	3, 065
Cards added to catalogs and shelf-lists.....	14, 125
Periodical parts entered.....	9, 414
New exchanges arranged.....	171
Volumes sent to the bindery.....	700
Volumes repaired in the library.....	1, 026
Circulation of books and periodicals, main library.....	10, 412
Books and periodicals assigned to sectional libraries for intradivisional circulation and filing.....	4, 493

Publications.—Thirty-one Museum publications were issued during the year 1948–49: 1 Annual Report, 3 in the Bulletin series, 25 in the Proceedings, and 2 numbers of the Contributions from the United States National Herbarium. A list of these is given on pages 122–123. Of special interest were two volumes of A. C. Bent's Life Histories of North American Birds—one on the nuthatches, wrens, thrashers, and their allies; the other on the thrushes, kinglets, and their allies—comprising the sixteenth and seventeenth parts of this popular series. The eighteenth part was sent to the printer just before the close of the fiscal year. The third and concluding part of Dr. Theodor Mortensen's "Report on the Echinoidea Collected by the United States Fisheries Steamer *Albatross*, 1907–1910" was issued in October 1948 as a part of Bulletin 100. The 25 papers in the Proceedings of the National Museum published during the year encompassed a wide variety of research based on the Museum collections in zoology and geology.

Volumes and separates distributed to libraries and individuals on the regular mailing lists totaled 56,950, while 9,509 copies of publications issued during the current and previous years were supplied in response to special requests. About 15,500 more Museum publications were distributed this year than last.

DETAILED REPORTS ON THE COLLECTIONS

DEPARTMENT OF ANTHROPOLOGY

(FRANK M. SETZLER, *Head Curator*)

IN July 1948 the Australian-American Arnhem Land Expedition moved its first base camp, by means of mission boats and planes, from Umbakumba, Groote Eylandt, in the Gulf of Carpentaria, to Yirrkala in the northeast corner of Arnhem Land. This international expedition, sponsored by the Commonwealth of Australia, the National Geographic Society, and the Smithsonian Institution was comprised of six Australian and four American scientists, including specialists in archeology, ethnology, zoology, botany, biochemistry, medicine, nutrition, and primitive art.

Under the leadership of Charles P. Mountford, the initial base camp was established at Fred Gray's native settlement at Umbakumba, Groote Eylandt, on April 4, 1948. During this period of 3 months, the head curator, Frank M. Setzler, obtained over 100 palm and fingerprints, hair samples, and taste tests of the various Australian natives; made several anatomical plaster casts of the young and adults for future modeling of life-size exhibition groups; took hundreds of photographs; and collected numerous ethnological specimens, such as bark paintings, spears, *woomeras* (spear throwers), baskets, mats, and canoe paddles, covering a representative series of their material culture. On Winchelsea Island he excavated some of the early Malay graves and on the northwest corner of Groote Eylandt obtained skeletal material of the Australian aborigine; several soil samples were collected for possible new antibiotics.

Two months were spent at Yirrkala, near the Methodist Aboriginal Mission Station. This beautiful camp site on the beach of the Arafura Sea permitted a repetition of anthropological research similar to that on Groote Eylandt. Here, too, Mr. Setzler was given an opportunity to excavate Malay and aboriginal sites at Port Bradshaw and Melville Bay. He also spent 3 weeks on Milingimbi Island, 150 miles east of Yirrkala. An excellent collection of painted ceremonial skulls and ceremonial paraphernalia was obtained from the natives on Milingimbi Island and the surrounding mainland through the kind cooperation of the Rev. T. H. Hanna, at that time in charge of the Methodist Mission on Milingimbi. Several trenches were dug in the large prehistoric shell heaps on the island.

On September 21 camp was again moved by plane and small coastal vessels to Oenpelli, 50 miles up the muddy, crocodile-infested East Alligator River. This camp was located near the foot of the high escarpment at the western boundary of Arnhem Land. Mr. Setzler devoted the entire period at this site to the excavation of 12 caves formerly inhabited by the Australian aborigines. Numerous skeletons and thousands of chipped stone implements were recovered from these screening operations. He was extremely fortunate in recovering a unique hafted adz, which clarified for the first time the use made of a specific type of chipped quartzite blade. The blade (*elouera*) was attached, by means of a cement derived from the roots of the iron-wood tree, to a short wooden handle. Many of these quartzite blades were recovered from the caves at Oenpelli; they occur on numerous surface sites throughout New South Wales. Many theories had been propounded as to the use of these blades. The finding of this hafted adz furnishes the first specific evidence as to how these blades were employed by the Australian aborigines.

The expedition returned to Darwin in November, where all the anthropological specimens were classified, divided, and packed for shipment to Adelaide, Sydney, and the United States. The members were then flown from Darwin to Adelaide. After paying his respects to the Minister of Information, the Hon. Arthur A. Calwell, whose interest and cooperation made possible this international expedition, as well as expressing thanks to the various commonwealth departments in Canberra for their splendid cooperation, Mr. Setzler left Australia by plane on December 1, 1948.

Upon the return of the head curator to Washington, Dr. T. D. Stewart renewed his physical anthropological field work in Guatemala. This project featured the collecting of anthropometric measurements and observations on the living Mayan-speaking Indians of the highlands. Such data are to serve in comparisons with similar data of record on the lowland Mayan-speaking Indians of Yucatán. A secondary phase of the project was the examination of skeletal remains from archeological sites in the highlands. Skeletons dated by cultural associations, especially from several time periods, will supply evidence on the nature of the physical changes that the local population has undergone. During the 11 weeks, Dr. Stewart measured nearly 200 Indians and examined a large collection of skeletal remains. He first visited the town of Soloma in the Department of Huehuetenango, where the Indians speak the Kanjabal language. Later he worked at the town of Santa Clara la Laguna in the Department of Sololá, where the Indians speak the Quiche language. Between visits to these places he examined skeletal remains recovered at Zaculeu, an ancient ceremonial center outside of the city of

Huehuetenango being excavated and reconstructed by the United Fruit Co. On June 20, 1949, Dr. Stewart flew to Cuzco, Peru, to attend as an American delegate the Second Inter-American Conference on Indian Life held June 24–July 4.

As in the previous year, Dr. Waldo R. Wedel, associate curator in archeology, again devoted practically all his time to work of the River Basin Surveys, particularly that having to do with the salvage of archeological history in the Missouri River Basin. On detail from May 26 to October 1, 1948, Dr. Wedel supervised field and laboratory operations of the Missouri River Basin Survey from headquarters in Lincoln, Nebr. During the winter he made three inspection trips from Washington to various parts of the Missouri Valley. He left Washington again on June 16, 1949, to resume the direction of operations for the third season.

Herbert W. Krieger, curator of ethnology, participated as the Smithsonian representative in a series of meetings at the State Department relative to participation by the Federal Government in the Port-au-Prince Bicentennial Exposition in response to the invitation extended by the Government of Haiti.

At the request of the Commissioner of Indian Affairs of the Department of the Interior, John C. Ewers, associate curator of ethnology, was detailed to duty with the Office of Indian Affairs during the month of August 1948 to prepare plans for exhibits in the new Museum of the Southern Plains Indians at Anadarko, Okla. He spent 10 days supervising Indian Office architects in Washington in the preparation of detailed exhibit case plans for the Museum and then installed a temporary exhibition in the Anadarko Museum for the period of the American Indian Exposition, August 17–21. On completion of the construction of the exhibit cases, Mr. Ewers was again detailed to duty with the Indian Office during February 1949. He supervised the painting of exhibition hall and cases, writing of labels, and installation of lighting and exhibit materials. While in Oklahoma he visited the museums of the Oklahoma Historical Society at Oklahoma City, the University of Oklahoma, at Norman, and the Museum at Fort Sill, near Lawton, and studied the Plains Indian materials on exhibition there. He also availed himself of the opportunity to see the fine collection of old Plains specimens collected by Col. Emil Landers, in the possession of his widow in Oklahoma City. In St. Louis he studied the excellent collections of early Indian photographs in the St. Louis Art Museum and the Missouri Historical Society.

The department's new associate curator in ethnology, C. Malcolm Watkins, was detailed from January 22 to 30 to attend a Forum on Antiques and Decorations held at Williamsburg, Va. He participated in discussion groups and gave a paper on "European Influences on

American Glass." He visited Jamestown and examined archeological specimens recovered at that site. Similar collections were examined at the Williamsburg laboratory. From April 4 to 15, and again from June 11 to 30, 1949, Mr. Watkins visited Time Stone Farm, Marlborough, Mass., the home of Mrs. Arthur M. Greenwood, where he examined the collections of objects of early American domestic use offered as a gift to the Smithsonian Institution by Mrs. Greenwood and to supervise their packing and shipment to the United States National Museum.

In addition to the heavy workload carried by this understaffed department, every spare moment was devoted to research and revitalizing its exhibits. The department has carried forward the study of man based on the anatomical, phenotypic, and, whenever possible, the genotypic characteristics. In combination with the data obtained through archeological and ethnological research, the studies are aimed to clarify the physical and cultural development of man, both on a horizontal plane (geographical distribution) and from the standpoint of time and perspective. This 3-dimensional approach to the study of man as a physical being and the diagnostic cultural traits obtained by controlled excavations should clarify man's development over the past 500,000 years. The factual evidence derived from these departmental-wide studies should contribute to a better understanding of the origin and development of man, his utilitarian and esthetic arts, and religious and social institutions.

Because of the lack of appropriated funds for modernizing exhibits, the proposed plan for hall 11 had to be postponed. Nevertheless, the department deems it so essential that a compromise program has been inaugurated whereby considerable improvements can be made with the present limited staff. At the close of the fiscal year, exhibition cases and specimens were being rearranged and the first diorama from the anthropological laboratory was nearing completion.

Three vacancies and two new positions were filled during the year. C. Malcolm Watkins was appointed associate curator in the division of ethnology to handle the sections of cultural history. As a result of his specialization in this field the division has been able to expedite the hundreds of requests in this rapidly growing field of interest. The appointment of Eugene P. Greer as scientific helper in the division of archeology somewhat diminished the work load in this understaffed division. Miss Lucy H. Rowland, John E. Anglim, and James C. Dade filled vacancies that occurred as a result of transfers and resignations.

ACCESSIONS

Even though the number of accessions in the department increased by 26 percent over the previous year, the total number of specimens

represented was 1 percent less. A total of 97 accessions, comprising 3,989 specimens, was received in the department. In addition, 110 specimens were added that had not been processed in previous years. The 97 accessions were distributed among the divisions and sections within the department as follows: Archeology, 36 (3,351 specimens); ethnology, 29 (406 specimens); ceramics, 5 (8 specimens); musical instruments, 1 (1 specimen); period art and textiles, 13 (99 specimens); physical anthropology, 13 (124 specimens).

Archeology.—The following noteworthy archeological collections were received: A black-figured Attic lecythus of the fifth century B. C., presented to President Harry S. Truman as a token of gratitude from the people of Greece by a delegation led by Christos Zalocostas, Member of Parliament for Athens, and lent by the President; 11 gold-plated ornaments from Veraguas, Panama, and 2 gold fishhooks from Colombia, a gift of Karl P. Curtis; 2 inscribed wooden tablets from Easter Island, a gift from H. S. Bissell; 47 prehistoric vessels from the Valley of Nasca, Peru, presented to the late General John J. Pershing by former President Augusto B. Leguia and donated to the U. S. National Museum by General Pershing; 97 earthenware vessels and other artifacts from Virú Valley, Department of La Libertad, Peru, transferred from the Bureau of American Ethnology; 813 stone implements, potsherds, and other artifacts from various archeological sites in Maryland, collected and presented by Richard E. Stearns; 55 stone artifacts and rejectage from blade manufacture, including a rare Folsom-type projectile point of black flint, from various sites on Utukok River, northwestern Alaska, transferred from the U. S. Geological Survey.

Ethnology.—With three exceptions the ethnologic accessions were received as unsolicited gifts of individuals. They represent the handicrafts and material culture of many of the world's peoples. Especially noteworthy is the collection of 51 specimens from American tribes of the Great Plains and the Great Lakes, of Arizona and New Mexico, also from the Eskimo of Alaska, the Igorot of the Philippine Islands, and the Marquesans and Maori of southeast Pacific Oceania, assembled over a period of more than a century and donated by Georgetown University.

The President, Harry S. Truman, presented to the Smithsonian Institution 17 gold-embossed silver vessels received at the White House as a gift from the Government of Tibet in appreciation of an American gift of wireless receiving and transmitting sets made during World War II. Included in the gift are two butter lamps and stands, four teacup stands and covers, two bowls for grain offerings, one teapot, and two beer mugs, all decorated in gold-embossed designs drawn from Chinese-Tibetan folklore and inspired by Buddhist religious art, but entirely Tibetan as to form.

By gift of the late Mrs. Frank Brett Noyes, the division's collections were enriched by a comprehensive gift of 287 folk, costume, and historical portrait dolls. The folk and costume dolls appear in native dress representing peoples of many lands: Indians of Western United States, Mexico, and Guatemala; Hispanic-American types of Argentina, Brazil, and Peru; Asiatic peoples including Japanese, Chinese, Korean, Javanese, Siamese, Burmese, Indian, Persian, Syrian, and Turkish; European ethnic types including Russian, Serbian, Bulgarian, Hungarian, Greek, Czechoslovakian, Italian, Sicilian, French, Spanish, Scotch, Irish, Austrian, Swiss, German, Belgian, Dutch, Danish, Icelandic, Norwegian, Swedish, Finnish, Latvian, English, and American. The dolls are made of wood, wax, bisque, china, papier-mâché, cloth, ivory, or plaster, and cover a period from the early eighteenth century to the present. The history of American costume is represented by a series beginning with the year 1775.

The Noyes collection also includes 24 historically documented portrait dolls artistically and faithfully modeled in fabric by Mrs. Dorothy Heizer. This series portrays queens famous in history from Nefertete, an Egyptian queen of the fourteenth century, B. C., to Queen Victoria of England.

Two important Hispanic-American specimens were received. The first of these, the Don Diego Columbus table, traditionally known as the writing desk of Diego Columbus, was conditionally bequeathed by Mrs. Edith Keyes Benton. The table was fashioned with hand tools and richly carved from Dominican mahogany early in the sixteenth century in Santo Domingo City, the colonial capital of New Spain. Preserved for centuries in the cathedral of that city, it was presented by the Archbishop Nouel to Commander Frederick L. Benton, U. S. N., in recognition of his work in Santo Domingo during the influenza epidemic of 1918. The second noteworthy Hispanic-American specimen was presented by Señora Consuela Bazán de Segura consisting of a silk hand-made lace luncheon cloth, a so-called *malla bordada* with appliqued lace designs embroidered on a knotted net.

Ju Whan Lee, director of the Korean Court Music Conservatory at Seoul, Korea, presented one of the rarest of musical instruments—a musical gong, *kyung*, carved from white marble. The *kyung* had its origin in China, whence it was introduced into Korea. A set of these gongs consists of 12, each having a different tone. The gong presented by Mr. Lee was made in Korea in A. D. 1484. It is the third tone from the lower end of the scale. When struck with the oxhorn mallet, which accompanied the gift, it produces the tone known as *tai jok*.

F. B. Hyde presented a decorated blanket of hand-woven *Phormium tenax* flax. The specimen was obtained at Wakarewarewa, North Island, New Zealand, from the great-great-granddaughter of a Maori chief, its former owner.

Physical anthropology.—Unusual specimens received in this division include four casts of fossil primates from Africa. Two of these, representing *Australopithecus prometheus*, were received as gifts from Prof. Raymond A. Dart, while the two others, of *Proconsul africanus* Hopwood, were purchased.

Another unusual collection, and at the same time the largest received, consists of skeletal remains recovered in northern Australia by the head curator, Frank M. Setzler, deputy leader of the Australian-American Arnhem Land Expedition. Although most of these skeletal remains pertain to native Australians, a few are Malays. The contrast in physical type between Australian and Malay is most striking. There are only a limited number of Australian skeletons available for study in this country; therefore a well-recorded collection such as this is most welcome.

The second largest accession represents the sixth addition to Dr. P. F. Titterington's generous gift of skeletal material from Illinois, mentioned in previous reports. This year's gift amounts to 39 specimens and brings the total to 549 specimens.

Distribution and exchange of specimens.—The division of archeology distributed 364 specimens (216 cataloged, 148 uncataloged) to educational institutions; 21 specimens on loan were withdrawn by the owners. In addition, 217 specimens were lent to six other museums for study purposes; all but 35 of these specimens were returned during the year. The original Kensington Stone was temporarily returned to Minnesota for an exhibit during the State's centennial year.

Even though the anthropological laboratory was reduced to one employee during a portion of the year, it was possible to clean, remount, and repair 20 of the century-old Catlin paintings in order to comply with the requests of several museums to borrow them. Fifteen collections of ethnological material representing 100 specimens were lent. In all, 132 ethnological specimens were distributed as open exchanges, transfers, and gifts.

The division of physical anthropology distributed to various institutions as open exchanges 12 casts made in the anthropological laboratory from the Tepexpan skull and lower jaw. An endocast of the Tepexpan skull was sent to the Museo Nacional de Antropología, Mexico City. Continuing the practice initiated in 1946-47, uncataloged skeletal remains from the Huntington collection were sent as gifts or open exchanges to three teaching institutions.

Number of specimens under the department.—During the past fiscal year the department received a net gain of 2,888 specimens, making a total of 755,193 cataloged specimens on June 30, 1949. The total number of specimens received amounted to 4,099; however, 1,211 previously cataloged specimens were distributed as gifts, exchanges, withdrawn, or transferred to other institutions or Government departments. The following summary indicates the distribution of specimens in the various divisions and sections within the department:

Archeology.....	521, 654
Ethnology.....	183, 797
Ceramics.....	7, 916
Musical instruments.....	2, 416
Period art and textiles.....	2, 584
Physical anthropology.....	36, 826
<hr/>	<hr/>
Total.....	755, 193

INSTALLATION AND PRESERVATION OF COLLECTIONS

As a repository for cultural objects from all over the world, the department of anthropology is charged with the task of preserving not only the nonperishable material culture of prehistoric peoples but also examples of highly perishable objects obtained from living primitive people and the cherished treasures of past civilizations. Similar curatorial attention is given to the human skeletal material in the collections, which ranges in time from the late geological periods to the end of the nineteenth century. The mere storage of these hundreds of thousands of irreplaceable objects is not enough. They must be classified, repaired, fumigated, segregated, and cataloged if they are to be made available to the thousands of annual visitors and scholars of the present day, as well as to future generations of visitors and students. The specimens that are put on display to tell the story of man represent only a small portion of the total made available each year for hundreds of research students as well as the professional staff of the Institution. An anthropological specimen *per se* is of little or no value to the research scholar, and therefore the department's staff makes every effort, by means of analysis and comparative studies, to determine the source of all material received, to identify the period of manufacture, provenience, and general ethnic position, and otherwise to document it fully, before it is officially cataloged and added to the national collections.

As elsewhere in the Museum, the space problem in the department of anthropology has reached a crisis. The amount of space available for the preservation of specimens in an orderly and systematic manner is utterly exhausted. If additional space cannot somehow be found and assigned to the department, it can no longer be expected

that the anthropological collections can be available to students under optimum conditions. It does not seem wise to encroach further on the laboratories or exhibition halls; and to refuse to accept new specimens because of lack of space not only will restrict scientific progress but will defeat one of the Museum's prime functions—exhibition.

Cataloging.—The department cataloged 3,989 specimens received during the year and 175 specimens received in previous years but never cataloged.

In the division of ethnology all incoming accessions were fumigated, cleaned, and repaired as a routine procedure preliminary to cataloging, and all specimens accessioned during the year were numbered, carded, and entered. Most Americans have a live curiosity concerning peoples living in other lands and are consequently great travelers and collectors. The division of ethnology is a repository of many privately made ethnic and cultural collections of merit. Cataloging of such collections is a major function of the division. Photographs and sketches are invaluable aids in cataloging newly accessioned specimens. Also useful are shipping tags attached to the specimens bearing numbers corresponding to the collector's list together with the common and native name of the specimen, the name of the locality, and the name of the group or tribe from whom it was obtained.

Considerable time was devoted by the staff in obtaining supplemental data regarding accessions made in previous years. For example, the division has, in its collection of paintings of Indian subjects, 25 oil paintings by the American artist Joseph Henry Sharp. Photographs were made in the Museum's photographic laboratory of the paintings and submitted to the artist, who was able to add many valuable data to the information entered on catalog cards in previous years when the paintings were received as gifts from individuals whose knowledge of the circumstances involved in the making of the paintings was limited. Similarly, Mrs. Dorothy Heizer, the artist who modeled the series of portrait dolls of famous historical queens included in the collection of Mrs. Frank Brett Noyes, was questioned by letter regarding her methods, sources of information, and the circumstances surrounding their creation. The information generously supplied in her answers was added on the catalog cards to the data obtained from the donor. In examining a very old collection of Indian rawhide and bone saddles from the northern Plains Indian tribes, in connection with a current study of the role of the horse in northern Plains Indian culture, it was discovered that a series of informative sketches had been pasted beneath each saddle and signed by George Bird Grinnell. These valuable data were added to the appropriate catalog cards.

The division of physical anthropology kept up to date on current accessions. The Belle Glade collection, which mainly represents the backlog, was moved at the close of the fiscal year from a storage room on the ground floor to the fourth floor of the rotunda. This brings all the Florida collections together and makes this particular collection more accessible for handling when opportunity comes to complete this backlog.

A large series of face molds, casts, and photographs of South African natives in the division collections was found to lack catalog numbers. Upon investigation these specimens proved to have been collected in 1913-14 by Prof. V. Suk, of Czechoslovakia, for the Panama-California Exposition and to have been accessioned but never cataloged. At the close of the year these had been listed and catalog numbers assigned. Some progress was made on the program of making history cards for the accessions of past years. Cards are now complete from the present through the year 1938. The cataloging of the reprint collection again suffered from the fact that the staff had little time to devote to this type of work. The effectiveness of the division's service and research will be limited as long as this mass of literature remains inaccessible.

For a 5-month period an extra clerk-stenographer was assigned to the department to assist in diminishing the accumulated backlog of uncataloged specimens and the typing of catalog cards. Considerable progress was made in the division of physical anthropology.

Exhibition.—Prior to the outbreak of World War II the department formulated plans for the modernizing of one of its exhibition halls. Even though this program is favored by all concerned, the necessary funds are not as yet available. Nevertheless, a compromise plan has been adopted whereby certain phases of the original program can be accomplished by the department's limited staff. At the close of this fiscal year specific changes were made in halls 9 and 11. Many of these rearrangements can be adapted in the original program when funds permit. Considerable experimentation was required in the building of a diorama to be used in these halls. The first of these dioramas, depicting one phase in the life of the Yahgans of Tierra del Fuego, a primitive group of Indians living in the southernmost inhabited region in the world, awaits installation. The production of a light-weight canvas-lined quadrisphere by A. J. Andrews, chief preparator, represents an innovation in producing this essential surface on which to paint the background and sky of a diorama. In addition to this large-scale exhibition program, the staff has devoted considerable time and effort to minor improvements of the exhibits in their respective divisions.

Archeology.—This division purchased an exhibit illustrating the use of tree rings for dating prehistoric ruins in the Southwest. This interesting display was prepared by the Tree Ring Laboratory at the University of Arizona. Four archeological exhibits were relocated. Cultural material from several archeological sites within the District of Columbia were installed. Mrs. Margaret C. Blaker continued her review of the division's archeological collections from New England in anticipation of revising the exhibits from these States. At the close of the year negotiations were under way to obtain diagnostic specimens illustrating the important archeological horizons by means of an exchange of specimens with another institution.

Ethnology.—The exhibits of the Hawaiian alcove at the southwest corner of hall 7 were entirely rearranged insofar as it is possible to do so with our limited staff, inexpensive display devices, paint, and modern installation in our old standard exhibition cases. Dolls from the Mrs. Frank Brett Noyes collection were installed in two large floor cases at the east end of the hall of period art and textiles. This pleasing exhibit includes portrait dolls representing famous queens of history artistically modeled in fabric by Mrs. Dorothy Heizer and based on documentary source material and contemporary paintings. Included are: Nefertete, queen of Egypt in the fourteenth century, B. C.; Cleopatra (69 B. C.—A. D. 30); Berengaria, queen of England and wife of Richard I, the Lion-Hearted; Queen Jadwiga of Poland (1371–1399); Margaret of Anjou, queen of England and wife of Henry VI; Isabella of Castile, queen of Spain (1451–1504); Catherine de Medici, queen of France; Mary Stuart, queen of Scotland; Elizabeth, queen of England and Ireland; Maria Theresa, wife of the Holy Roman Emperor, Francis I; Catherine II, empress of Russia and wife of Peter the Great; Marie Antoinette, queen of France, wife of Louis XVI; Josephine, empress of France, wife of Napoleon I; Louise, queen of Prussia, wife of Frederick William III; and Victoria, queen of the United Kingdom of England and Ireland and empress of India.

Two special exhibitions were temporarily installed in the ground floor foyer, consisting of a selection of portrait dolls from the Mrs. Frank Brett Noyes collection. The selection embraced a group portraying Henry VIII, king of England (1509–1547), based on a Holbein portrait in Windsor Castle; Catherine of Aragon, first wife of Henry VIII; Anne Boleyn, second wife of Henry VIII; Jane Seymour, his third wife; Anne of Cleves, his fourth wife; Catherine Howard, his fifth wife; and Catherine Parr, the sixth wife of that much-married monarch. The other special foyer exhibit was the gift of the President, Harry S. Truman, of 17 gold-embossed silver vessels of domestic and ceremonial use that were received by the White

House shortly after the close of the war as a gift of the Government of Tibet. Owing to the difficulties of travel between Tibet and the outside world, more than a year was required to bring this official gift from a friendly nation to Washington. The objects in themselves are interesting because they show the strong influence of traditional Chinese art designs along with Buddhist inspired religious motifs. Awe-inspiring were the size and barbaric form of two of the vessels designed for use as beer mugs.

Continued popular interest in George Catlin's paintings of North American Indians was reflected in requests, which were granted, for the use of selections of his paintings in loan exhibitions by other institutions, namely: Museum of the Southern Plains Indians, Anadarko, Okla. (12); Brooklyn Museum (4), for display in an exhibition on Western Expansion; the Library of Congress (6); and the Minneapolis Institute of Art (3), for its Minnesota Centennial Exhibition.

Physical anthropology.—Relatively few changes were made in the exhibitions under the division's care. Dr. Marshall T. Newman continued to improve the new exhibits he had installed in the hallways on the third floor. At the close of the fiscal year lights were being installed in the third-floor hall case containing the Tepexpan Man exhibit. During September this case was moved to the rotunda to form part of the Institution's exhibit in connection with the centenary of the American Association for the Advancement of Science.

Preservation of collections.—With the functioning of the Museum fumatorium, the problem of preserving perishable objects has been held to a minimum. Since all incoming collections of a perishable nature are first treated in the fumatorium, a weekly inspection of the department's thousands of specimens on exhibition and the frequent use of our study collections make it possible to forestall any serious infestation. Adequate space for the classified storage has long been exhausted. The necessity of crowding more and more specimens into these limited cases constitutes a most serious preservation problem.

The scientific aides in the division of archeology numbered the collections as received throughout the year, cleaned and consolidated the study collections, and rearranged the division's collections of archeological specimens from the District of Columbia. Considerable time was devoted to the identification of unmarked or inadequately identified specimens among the early acquisitions. All pre-Columbian gold specimens were removed from public exhibition in 1920, owing to the lack of adequate protection. These intrinsically and scientifically valuable specimens, now kept in a vault, were examined and checked by the curator, Neil M. Judd.

In the division of ethnology the assistant curator, Robert A. Elder, Jr., continued throughout the year to work on the systematic reclassi-

fication of the study collections to facilitate ready reference to the materials. The following categories were arranged in reclassified storage during the year: African ethnology and the collections from Madagascar; Polynesian, particularly Hawaiian, materials; ethnology of North American Indian tribes of the Canadian Northwest, the Plateau area, the Great Basin, eastern Woodlands, and of the southwestern Pueblo and nomadic tribes. Classification of study collections from the tribes of Washington, Oregon, and California was in progress at the close of the year. Important aspects of this work were the renumbering of many valuable old pieces on which the catalog numbers had become indistinct and also the checking of specimens of doubtful cultural allocation with the Museum records and pertinent ethnological literature. The aid of the technological shops of the Superintendent's office contributed greatly to progress made with the project of reclassification. Five hundred dividing strips were installed by the cabinet shop in storage cases housing paintings of North American Indians. Six additional specially designed long-weapon storage cases were built and installed in the W. L. Abbott room in the attic storage section. The chief preparator, A. J. Andrews, cleaned and restored 15 of the George Catlin paintings.

From funds allotted to the division of physical anthropology this year, sufficient steel was secured to make the new storage racks planned for rooms 342 and 374. At the close of the fiscal year the racks in room 342 were completed and the room is being redecorated. The increased and more accessible storage space resulting from the installation of these new racks will greatly facilitate the work of the division. Also, with permanent assignment of drawers to the new storage space in these two rooms, the finding system can be extended to 854 more drawers. Since each drawer holds 10 skulls or 3 skeletons, the number of specimens thus brought under more effective control runs into several thousand. As time permitted, the scientific aide continued the work of sorting and rearranging the older collections. This cannot be carried much farther until additional storage space becomes available.

Anthropological laboratory.—During the year the anthropological laboratory performed an unusually wide variety of tasks. For the division of archeology a duplicate cast in natural color was made of the Kensington Rune Stone. Painted casts were also made of an ear-spool and a platform pipe. Several pieces of pottery were repaired. For the division of ethnology, the shell for the background of the Yahgan diorama was cast and painted, and numerous figures and accessories for this exhibit were modeled, cast, and painted. In addition, 14 Catlin paintings were cleaned and varnished, and another Catlin picture was mounted, repaired, cleaned, and varnished. Nine

pieces of Tibetan silver were cleaned, polished, and coated with lacquer. For the division of physical anthropology 18 casts in natural color were made of the Tepexpan skull and jawbone, and casts of a facial fragment were repaired. A large series of life masks was checked and then stored in the attic. The statue "Columbia's Call to Arms," by Niehaus, and the original model for the Hodgkins medal were repaired for the National Collection of Fine Arts. Four pieces of Mexican pottery were repaired and restored for the Bureau of American Ethnology. A section of an ornament was duplicated for the Department of Botany, and an articulated life-size manikin was turned over to the National Air Museum for installation in the Wright Brothers' military airplane of 1909. Information on museum preservation and diorama construction was given to numerous individuals and correspondents. The laboratory continued to keep in repair the statuary throughout the Natural History Building.

INVESTIGATION AND RESEARCH

Several members of the staff were given opportunity for field work during the year. Moreover, the world-wide scope of the department's collections provided opportunities for making contributions to anthropological studies, and considerable research has been undertaken.

As a member of the joint Australian-American Expedition to Arnhem Land, the head curator, Frank M. Setzler, was given an opportunity to visit museums and scientific organizations in Brisbane, Sydney, Canberra, Melbourne, and Adelaide. During the eight months of continuous tent life in Arnhem Land, he associated with hundreds of Australian aborigines, made palm and finger prints, obtained hair samples, observed and studied the methods used in the manufacture of their material culture, such as spears, spear throwers, dugout and bark canoes, canoe paddles, baskets and mats, bark paintings, and carved wooden figures; accompanied them on their "walkabouts," witnessed their initiation and circumcision rites and their elaborate ceremonial dances; collected numerous skeletal material during the archeological reconnaissance; and systematically excavated sites on Winchelsea Island, Bartolombo Bay, Port Bradshaw, Yirrkala, Milingimbi Island, and 12 cave sites at Oenpelli. During his visit to the capital cities he was given an opportunity to examine the anthropological collections in the various State museums and universities and to meet the staff members. During these visits and as deputy leader of the Arnhem Land Expedition, he was called upon to make many informal and several formal lectures to various organizations and scientific societies as well as local and overseas radio broadcasts.

Upon his return to Washington, Mr. Setzler prepared a paper on the unique hafted adz he was fortunate enough to recover in one of the

cave sites at Oenpelli and a short paper on "The Archeology of Arnhem Land," which he delivered at the annual meeting of the Society for American Archeology in Bloomington, Ind.

Archeology.—Neil M. Judd, curator of archeology, brought his National Geographic Society report on the material culture of Pueblo Bonito nearly to completion as the fiscal year ended. A volume on architecture is next in prospect. Dr. Waldo R. Wedel, associate curator, worked entirely with the River Basin Surveys. Mrs. Margaret C. Blaker, scientific aide, spent a considerable portion of her time in the analysis of archeological materials collected by members of the Delaware Archeological Society and offered to the National Museum in return for descriptive information. She continued her study of the division's archeological collections from the New England States. From July 1 to August 24, 1948, Mrs. Blaker served as field assistant to Douglas Byers, director of the Robert S. Peabody Foundation for Archeology, Andover, Mass., during excavations on Wasp Island, Union River, Ellsworth, Maine.

Ethnology.—The curator, H. W. Krieger, completed the revision of a manuscript on "Taiwan—the Ilha Formosa of the Portuguese" that originally had been prepared as a part of a Smithsonian War Background Study. Attention was given to the completion of manuscripts based on field work in the Greater Antilles that began in 1928 in the Smithsonian's joint biological and anthropological expedition to explore cave deposits and former Ciguayan Indian village sites in Samaná Province of the Dominican Republic. The Smithsonian's Antillean project, which was sponsored by the late Dr. W. L. Abbott, actually had its inception in 1916, when Dr. Abbott first visited the caves of the south shore of Samaná Bay. The study of fifteenth- and sixteenth-century historic Indian villages and Spanish settlements in the Caribbean area was advanced through field work undertaken by Mr. Krieger from January 15 to May 1, 1947, at sites associated with the First Voyage of Christopher Columbus in the Bahamas, Hispaniola, and Cuba, under the Smithsonian's Ernest N. May fund. His report on this historical phase of the Smithsonian's Antillean project is in preparation.

The associate curator, John C. Ewers, continued with his research on the early culture of the Plains Indians. He completed a draft of the first five chapters of a study of "The Horse in Blackfoot Indian Culture." He also prepared a short paper appraising the significance of paintings executed by white artists of North American Indians in the period prior to the development of photography, for publication by the New York Historical Society. While on special detail to the Department of the Interior in February, he examined an anonymous mid-nineteenth century manuscript in the collections of the Missouri Historical

Society of the Crow Indians of the period. Believing this manuscript might have been written by Edwin T. Denig, an exceptional fur trader of the period, he obtained photostats of pages from the manuscript and submitted them along with known examples of Denig's penmanship to handwriting experts of the Government, who identified the handwriting of the manuscript as that of Mr. Denig. As a result of this valuable discovery, the Missouri Historical Society has granted permission for this eyewitness account of the Crow Indians to be edited for publication by the Smithsonian Institution.

C. Malcolm Watkins, formerly the curator of Wells Historical Museum collections at Old Sturbridge Village, Sturbridge, Mass., and now associate curator in the division of ethnology, continued with his previously initiated studies of Colonial American heating and lighting, glass, and ceramics. He prepared a paper on "Foreign Influences in American Glass," which he delivered at Colonial Williamsburg in January. This was later published in the magazine *Antiques*. He has in preparation a paper on eighteenth-century engraved glass used in America, as well as a paper on iron lighting devices in America. He has taken comprehensive notes on the division's collections of lighting devices in connection with a paper he is preparing on "Artificial Lighting in America, 1830-1860."

Physical anthropology.—Because of administrative duties and absences from the office, the curator of physical anthropology, Dr. T. D. Stewart, made little progress on his reports relating to past research. Having been invited to participate in the conference on Indian life scheduled to convene in Cuzco, Peru, June 24, 1948, he prepared during April of that year a paper entitled "Periodical Surveys of the Physical Quality of American Populations." This paper focused attention on the fact that more is known about the size of populations than of their quality. The Cuzco conference was postponed twice but was finally held June 24-July 4, 1949. After completing this paper, Dr. Stewart prepared an article based on the lectures he gave early in 1948 at the University of Chicago, entitled "Development of the Concept of Morphological Dating in Connection with Early Man in America." This paper was published in the *Southwestern Journal of Anthropology*. Just before leaving for Guatemala, Dr. Stewart compiled the literature on the physical anthropology of Latin America for 1947 for the *Handbook of Latin American Studies* now being published by the Library of Congress. Following his return from Guatemala he began assembling comparative data on Guatemalan Indians.

As already mentioned, the research activities of the associate curator of physical anthropology, Dr. Marshall T. Newman, were limited by the workload in the division resulting from Dr. Stewart's absences. In addition to advancing his TVA report and extending his bibliography on the nutrition of American Indians, he prepared an article on

North American populations for Collier's New Encyclopedia, a critical review of Juan Comas's "Bibliografía Morfológica Humana de America del Sur" for the American Anthropologist, and revised his "Blond Mandan" manuscript for presentation at the annual meeting of the American Association of Physical Anthropologists. At the end of the year he was working on the sequence of physical types in South America for the forthcoming Viking Fund summer seminar in physical anthropology. Also he was preparing two reports on skeletal material: (1) from the Bynum site in Mississippi and (2) from several sites in Florida.

Dr. Walter W. Taylor, Jr., collaborator in anthropology, completed his manuscript "A Study of Archeology," which was published as a memoir in the American Anthropologist. He also continued the analysis of archeological specimens that he obtained during several seasons of cave explorations in Coahuila, Mexico.

Research by outside investigators.—During the year 83 investigators did research on the collections for varying periods in the department's laboratories and made use of the divisional libraries. In addition, over 260 specimens were sent to various institutions at the request of scientists for study purposes. The three divisions received 102 lots of anthropological material totaling 834 specimens for identification and prepared formal reports. These identifications, in addition to the many hundreds of specimens brought in person for which no formal reports were required, covered all the fields of investigations assigned to this department. Especially significant were the 16 lots of skeletal material submitted by the Federal Bureau of Investigation for identification and analysis as to age, sex, and race. The scholars using the collections came from various parts of the world, such as Seoul, Korea; Nanking, China; Bagdad, Iraq; Stockholm, Sweden; Copenhagen, Denmark; Dundee, Scotland; Oxford, England; Habana, Cuba; Dominican Republic; Colombia; and Mexico City, D. F.; as well as from 24 States in the Union.

DEPARTMENT OF ZOOLOGY

(WALDO L. SCHMITT, *Head Curator*)

THE year's activities in the department of zoology were highlighted by the participation of a number of staff members in expeditions that brought the Institution examples of many rare and scientifically valuable species of animals from little-known parts of the world largely not represented heretofore in the Museum's collections.

Three associate curators—Dr. David H. Johnson, division of mammals; Herbert G. Deignan, division of birds; and Dr. Robert R. Miller, division of fishes—who participated in the Arnhem Land Expedition to the zoologically little known Northern Territory of Australia, sponsored jointly by the Commonwealth of Australia, the National Geographic Society, and the Smithsonian Institution, returned in the early months of 1949. The valuable series of mammals, birds, fishes, reptiles, and amphibians obtained, along with extensive collections of insects, crustaceans, shells, and corals, easily mark this as perhaps the most important expedition of the year and, indeed, of several years past. Another expedition of great importance in the value of the collections of birds and mammals made in a rarely visited region was the National Geographic Society–Yale University–Smithsonian Institution Expedition to India and Nepal under S. Dillon Ripley.

Leaving Washington late in March 1948 and returning in mid-August of the same year, Donald S. Erdman, scientific aide, division of fishes, participated in a fisheries survey in the Persian Gulf and Red Sea under the auspices of the Arabian-American Oil Co. In the course of the investigation he collected about 5,000 fishes, as well as numerous marine invertebrates, insects, reptiles, and amphibians. Dr. Henry W. Setzer, associate curator of the division of mammals, spent approximately three months, from late in March to early in June, on a collecting trip to Costa Rica undertaken at the invitation of the Plywoods-Plastic Corp. Working in the valleys of the Ríos Estrella and Turrialba, he procured about 300 mammals and made incidental collections of birds and reptiles.

Ornithological field work was continued by Dr. A. Wetmore and W. M. Perrygo, who had an unusually successful trip to areas of Panama not explored on their earlier visits to that country; by M. A. Carriker, Jr., who this year gave special attention to the little-known

northwestern section of Colombia close to the Panamanian border; and by Foster D. Smith, in northeastern Venezuela. Charles O. Handley, Jr., on temporary appointment as assistant curator of birds, left Washington in March for the Arctic Archipelago, Northwest Territories, Canada, with the objective of collecting Arctic birds and mammals throughout the summer season.

The year showed a 10-percent increase in the number of specimens received in the department, even though there was a slight recession (less than 2 percent) in the number of accessions, and so, in spite of the fact that nearly 40 percent more specimens were cataloged this year than last, the backlog of uncataloged or unprocessed material left at the end of the year was about 9 percent greater than the year before.

Research activities, as reflected in the number of papers published, continued at a high level, surpassing last year's figures. Not less than 285 published papers based wholly or in part on Museum material appeared during the year. Of these, 72 were authored by members of the staff either alone or jointly with others, 42 were by entomologists in the division of insect identification, Bureau of Entomology and Plant Quarantine, 18 by members of the Fish and Wildlife Service, and 153 by outside investigators, aided by members of the staff while studying the collections or by the loan of specimens.

Five vacancies on the departmental staff were filled by the following appointments: Dr. Henry W. Setzer as associate curator and Norman M. Miller as museum aide, division of mammals; Brooke Meanly as scientific aide, division of birds; Dr. Ernest A. Lachner as associate curator, division of fishes; and O. L. Cartwright as entomologist, division of insects. Miss Ruth E. Nylin, clerk-stenographer attached to the head curator's office, was transferred to the division of correspondence and records.

Dr. J. A. Cushman, long the world's leading authority on Foraminifera and official collaborator in Foraminifera in the division of marine invertebrates since 1928, died on April 16, 1949. Good friend and valued contributor to the Museum's publications and collections that he was, he bequeathed the whole of his scientific library and his personal, lifetime collection of Foraminifera, especially rich in types, to the Smithsonian Institution.

ACCESSIONS

The year's total was 842 accessions, 14 less than last year, comprising 279,621 specimens, an increase of 26,234 over the preceding year. The receipts by divisions were as follows: Mammals, 63 accessions, 2,035 specimens; birds, 65 accessions, 12,707 specimens; reptiles and amphibians, 45 accessions, 1,043 specimens; fishes, 46 accessions, 36,336

specimens; insects, 240 accessions, 128,143 specimens; marine invertebrates, 151 accessions, 40,721 specimens; mollusks, 208 accessions, 58,249 specimens (including helminths, 23 accessions, 230 specimens, and corals, 4 accessions, 19 specimens); and echinoderms, 24 accessions, 387 specimens.

Mammals.—A collection of 500 mammalian specimens from the Northern Territory of Australia taken for the Museum by Dr. David H. Johnson, associate curator, while a member of the Arnhem Land Expedition constituted one of the year's more important accessions. It greatly increases our knowledge of the fauna of that island continent and brings to the Museum its first representation of many of its unique species. Likewise, the 130 specimens collected in Nepal by another expedition, in which the National Geographic Society, Yale University, and the Smithsonian joined under the leadership of S. Dillon Ripley, are of very great value to the Museum because they come from an area previously unrepresented in the national collections and because the names of so many Asiatic mammals have been based on Nepalese specimens. Important also is a transfer from the Medical Corps of the Army. This consisted of 107 mammals from the Malay Peninsula secured by Maj. Robert Traub and associates in connection with scrub-typhus investigations. A number of gifts deserving special mention include: A collection of 110 small mammals from New Hampshire presented by Edward A. Preble, which brings the Museum its first adequate series of several New England species; 90 small mammals from Okinawa, the Philippine Islands, and New Guinea, collected by the donor, Robert M. Roecker, during World War II; a skeleton and calf of a pygmy sperm whale from Florida received from Henry Kritzler; 14 small mammals from Korea presented by Col. L. R. Wolfe; the skull of the extinct plains grizzly from North Dakota from Dr. Neal A. Weber; a rare bat, *Myotis subulatus leibii*, taken in Virginia and given by Miss Nancy Rogers; and the skin and a reel of motion pictures of the little-known pichi-ciego, *Chlamyphorus truncatus*, of Argentina presented by Dr. José L. Minoprio.

Birds.—The Arnhem Land Expedition furnished the leading avian accession of the year. It included 778 bird skins, many of which were new to the collection, as well as 51 skeletons and 2 eggs. The joint expedition to India and Nepal returned with 1,164 skins for the Museum, including many forms not hitherto possessed by the Museum. As in past years, the W. L. Abbott fund made possible the acquisition of much valuable material by purchase, or the support of field collectors: 2,815 skins and 38 eggs of Colombian birds collected by M. A. Carriker, Jr.; 900 skins, 24 skeletons, and 2 sets of eggs of Panamanian birds collected by Dr. A. Wetmore and W. M. Perrygo; 209 skeletons

of birds from Liberia; and 95 sets of eggs from Brazil, Venezuela, British Honduras, and Florida, including a number of species of eggs new to the Museum. Dr. Wetmore, the Secretary, deposited 2,095 bird skins of his own collection from the Central United States, a region not well represented in the Museum before. Our first sizable collection of bird skins from Nyasaland, totaling 611 specimens, was received as a gift from the late F. C. Walcott. Valuable series from Newfoundland and Cuba were included in a transfer of 2,817 skins, 4 skeletons, and 2 sets of eggs of North American birds from the United States Fish and Wildlife Service. Other accessions worthy of note included the following donations: From Foster D. Smith, Jr., 177 birds and 2 eggs from northeastern Venezuela, including 2 birds new to science and much valuable distributional material; from Sammy M. Ray, 171 bird skins from Pacific war areas; from Col. L. R. Wolfe, 125 bird skins from Korea; and from E. J. L. Hallstrom a specimen of an adult male long-tailed bird-of-paradise, of the genus *Taenioparadisaea*, new to the Museum.

Reptiles and amphibians.—As the Museum possessed almost no specimens of reptiles and amphibians from northern Australia, the snakes, lizards, and frogs collected by the Arnhem Land Expedition yielded the most important accession of the year. Other specimens of value were received as gifts: From George Rozanski, 15 amphibians collected in the Province of Orellana, Peru, including a Surinam toad, 2 species of poison arrow frogs, and 4 specimens of a very rare species, *Edalorhina perezi*; from R. L. Hoffman, 304 specimens from Virginia and North Carolina, augmenting the large collections from the same region previously donated by him; and from Dr. H. W. Randel, 68 specimens, including a rare caecilian, *Gymnopsis m. mexicanus*, from Honduras, from which locality the Museum possesses very little material.

Fishes.—The division of fishes enjoyed a particularly fruitful year, receiving, among other valuable material, three unusually outstanding accessions of especial interest and importance in connection with extended studies of the fishes of the Indo-Pacific being carried on by the staff. The first of these was a gift of 13,734 fishes by Dr. Wilbert M. Chapman, now of the Department of State, who collected them during the late war in the Solomon Islands and the East Indies region; the second, consisting of 14,300 fishes, was collected for the Museum by Dr. Robert R. Miller while a member of the Arnhem Land Expedition; and the third, comprising about 5,000 fishes, came to the Museum through the participation of Donald S. Erdman, scientific aide, in a fisheries survey of the Persian Gulf and the Red Sea, sponsored by the Arabian-American Oil Co. As a result of an earlier tour of duty in Puerto Rico, Mr. Erdman also collected 969 other fishes which he presented to the Museum during the year. Note-

worthy donations were received from Vladimir Walters, 425 fishes that he had collected in Panama; from J. R. Alcorn, 382 fishes collected by himself in British Colombia; and from the University of Tampa, through Prof. Clyde T. Reed, 300 fishes from the vicinity of Tampa and Englewood, Fla. Three paratypes of *Apodocreeidia vanderhorsti* de Beaufort were presented to the collections by the Zoological Museum of Amsterdam through Dr. L. F. de Beaufort, and two paratypes of *Fagasa diaphana* were obtained in exchange from the Stanford University Natural History Museum.

Insects.—Entomological accessions of special interest included: Approximately 25,000 miscellaneous insects from various South Pacific Islands, collected by Dr. H. K. Townes and R. G. Oakley and transferred to the Museum by the U. S. Commercial Co.; some 53,000 specimens of miscellaneous insects transferred by the Bureau of Entomology and Plant Quarantine; the personal collection of Charles T. Greene, recently retired from the Bureau of Entomology and Plant Quarantine, and long associated with the division, amounting to approximately 12,000 specimens of flies; 3,500 chalcidoid wasps donated by Stewart C. Schell; 469 named beetles of the scarabaeid subfamily Dynastinae, of which many represent species not heretofore present in the national collections, received as a gift from Lionel Lacey; and 2 gynandromorph scoliid wasps as a gift from the University of Michigan through Dr. T. H. Hubbell (gynandromorph Hymenoptera are extremely rare in collections; less than a dozen are known).

Marine invertebrates.—Significant marine-invertebrate material was received during the year by gift, transfer, and exchange and in two instances collected for the Museum by members of its staff participating in expeditions sponsored in part by the Smithsonian. One of the more important gifts of the year was the collection of 11,765 miscellaneous invertebrates received from the department of zoology, University of California, through Prof. Harold Kirby; included were in part the study collections and several type lots of early marine invertebrate workers who did much to lay the foundation of our present knowledge of the Pacific North American invertebrate fauna. An extremely valuable gift consisted of 70 lots of paratypes, hypotypes, and topotypes of hydroids obtained in the course of the various Hancock Pacific and Atlantic Expeditions and described by the late Dr. C. McLean Fraser. This was received from the Allan Hancock Foundation, University of Southern California, through Dr. Irene McCulloch. Other important gifts included: 760 specimens of very desirable marine invertebrates from California and Mexico, collected by the donors, Prof. and Mrs. G. E. MacGinitie; 709 marine invertebrates, collected by the donor, Dr. A. S. Pearse, at Bimini, Bahama

Islands; and 1,781 miscellaneous invertebrates collected in the Pacific Islands and California by Lt. G. S. Mansfield. In addition to the foregoing accessions, which also in part contained type material, other types were given to the Museum during the year by the following authors: Dr. Marian H. Pettibone, holotype and paratype of two species of polychaete worms; Robert J. Menzies, holotype, allotype, and paratypes of 11 species of isopods; Dr. Frederick F. Ferguson, paratype specimens of archiannelid worms; Dr. Olga Hartman, holotype and paratypes of polychaete worm; Dr. Willis L. Tressler, type specimens of ostracods; Miss Jocelyn Crane, paratypes of a species of crab; Dr. Arthur G. Humes, holotype, allotype, and paratypes of a species of copepod; Dr. Horton H. Hobbs, Jr., holotype, morphotype, and allotype of a crayfish; Dr. Charles C. Davis, slide preparations of holotypes of two species of copepods; Dr. N. T. Mattox, holotypes and paratypes of a phyllopod; Dr. M. W. de Laubenfels, types of 12 species of sponges; Miss Mary Jean Lindenschmidt, slide preparation of the holotype of a sponge; and the University of California, through Dr. Frank A. Pitelka, paratypes of three species of isopods. A transfer from the Office of Naval Research brought to the Museum a beautifully preserved collection of 3,668 miscellaneous marine invertebrates made by Prof. and Mrs. George E. MacGinitie, of the Arctic Research Laboratory at Point Barrow, Alaska; and another transfer from the Geological Survey 568 specimens of miscellaneous invertebrates collected in the Marianas Islands by Dr. P. E. Cloud, Jr. Fourteen important specimens of alcyonarians, type material, were secured in exchange from the Zoological Institutionen, Uppsala, Sweden, through Dr. A. Holm; and 11 from the Naturhistoriska Riksmuseet, Stockholm, Sweden, through Prof. Nils Odhner. In the Persian Gulf and Red Sea, Donald S. Erdman, with the cooperation of the Arabian-American Oil Co., collected 452 specimens of miscellaneous marine invertebrates for the Museum. H. G. Diegnan, Dr. D. H. Johnson, Dr. R. R. Miller, and F. M. Setzler also collected for the Museum the 859 specimens of miscellaneous invertebrates returned by the Arnhem Land Expedition.

Mollusks.—Especially notable among the accessions of the year was the gift of a new species of the rare deep-water genus *Pleurotomaria*, dredged in 160 fathoms off Natal, South Africa, and received from Dr. Cecil von Bonde. Other gifts of some consequence included 90 lots, about 250 specimens, of Peruvian land and fresh-water mollusks presented by George Rozanski; 83 lots, 540 specimens, of marine mollusks, from Canton Island, received from Dr. Charles A. Ely; 2 paratypes of the land mollusk, *Nenia olssoni*, from the Academy of Natural Sciences of Philadelphia, through Dr. Henry A. Pilsbry; 25 lots, approximately

300 specimens, of which 16 are paratypes and topotypes, of the fresh-water mollusk *Littoridina*, of Chile, donated by Dr. Walter Biese; and 10 lots of paratypes, 30 specimens in all, of marine, land, and fresh-water mollusks from California and Idaho from the California Academy of Sciences, through Dr. Allyn G. Smith. Exchanges with individuals, as well as institutions, furnished further valuable material, as follows: 286 lots, about 1,080 specimens, of Spanish land mollusks received from Dr. Adolfo Ortiz y López de Zarate; 3 lots, 7 specimens, of rare deep-water South African mollusks, from H. J. Koch; 17 lots, 93 specimens, of Italian land shells, including 3 paratypes of *Helix latina* from Prof. Ing. Giovanni Giorgi; 4 lots, 15 specimens, of paratypes of Cuban land and marine mollusks from the collector Dr. C. G. Aguayo; and 3 lots, 5 paratypes, of land mollusks not heretofore represented in the collection. Important transfers included: One from the United States Geological Survey, through Dr. Harry S. Ladd, 474 lots, about 1,200 specimens, of marine mollusks collected by Charles G. Johnson in the Caroline Islands; two from the National Naval Medical Center, 434 lots, about 30,600 specimens of marine and land shells from Capt. R. H. Draeger, and 146 lots, approximately 600 specimens, of Solomon Islands marine and land shells collected by Commander Harry B. Eisberg (MC) from the Naval Medical School; and a fourth from the Medical Department Research and Graduate School of the Army, through Col. George W. Hunter, 3d, consisting of 34 lots, about 150 specimens, of land mollusks on Shikoku Island, Japan, collected by Hisashi Abe. From the collections made for the Museum under the auspices of the Arnhem Land Expedition, 227 lots, approximately 1,200 specimens, of mollusks, both land and marine, accrued to the Museum; and from the fisheries survey sponsored by the Arabian-American Oil Co. in the Persian Gulf and the Red Sea, 123 lots, comprising some 1,500 specimens collected by Donald S. Erdman.

Helminths.—Seven of the 23 helminth accessions recorded for the year consisted of or included type material for which the Museum is indebted to: Dr. Harley J. Van Cleave for the types of five new species of helminths; Ta Hsuing Chin for the types of two new species; Dr. J. H. Fischthal, tolytype of a blood fluke; Dr. Merle F. Hansen, holotype of a new cestode; Dr. R. Chester Hughes, cotype material of a new tapeworm; Prof. Leland S. Olsen, 5 syntypes of a new species of nematode; and Dr. Ivan Pratt, type and paratype of a new trematode.

Corals.—Of 19 coral specimens received in 4 accessions, 13 were collected in the course of the Arnhem Land Expedition to the Northern

Territory of Australia, and 2 during the fisheries survey of the Red Sea and the Persian Gulf.

Echinoderms.—Several rarities were included in the year's accessions in this division: The second known specimen of *Ceramaster planus* (Verrill), larger than the type, presented by Roy Latham; a fine series of 284 specimens of *Ceramaster granularis* (O. F. Müller), a species of starfish heretofore known from American waters by very few specimens, presented by James R. Miller; the second known specimen of *Ophioncus granulosus* Ives, presented by Dr. Walter K. Fisher; and a very fine example of the sea-urchin *Diadema setosum*, collected by Donald S. Erdman in the Persian Gulf and received from the Arabian-American Oil Co.

Distribution and exchange of specimens.—In the course of the year 207 transactions were completed, involving the distribution of 35,061 duplicate specimens to various agencies, institutions, and museums for scientific or educational purposes; 17,791 specimens were sent out in exchanges, 16,428 as gifts, and 842 as transfers. In addition, 230 photographs were sent out, 3 as exchanges, 224 as gifts, and 3 as transfers. Not all the specimens enumerated above were recorded or cataloged. Therefore, in part they do not affect the totals of specimens in the collections at the close of the fiscal year.

Number of specimens under the department.—The summary of specimens given below is based on the estimates of the previous fiscal year, with the addition of specimens accessioned during the present year and the deduction of specimens distributed or removed during the same period. Specimens prepared for study and permanent preservation as microscopic slides from material on hand may account for any unspecified increases in certain of the annual totals. In the division of mammals, where specimens are not counted as a part of the collection until they are cataloged, the increase may be smaller than the number of specimens accessioned. Also, with the discarding or condemnation of specimens that have deteriorated or are no longer deemed suitable for retention, decreases not otherwise accounted for will occur. The figures of early estimates were approximate and the totals based on them are revised from time to time. A reasonably careful tabulation made of the collection of insects at the beginning of the current fiscal year gave an approximation of 11,500,000 specimens. Adding those accessioned during the year, less distributions, the total becomes 11,620,103. No estimate was ever made of the corals. In several divisions lots consisting of minute organisms are frequently counted as single specimens, though they may contain hundreds and even thousands of individuals, the enumeration of which would serve no useful purpose.

The totals of specimens in the respective divisions and for the department are as follows:

Mammals.....		255, 869
Birds:		
Skins.....	320, 841	
Skeletons.....	19, 069	
Alcoholics.....	10, 118	
Eggs.....	93, 570	
Nests.....	3, 741	
		447, 339
Reptiles and amphibians.....		137, 038
Fishes.....		1, 464, 411
Insects.....		11, 620, 103
Marine invertebrates.....		1, 206, 719
Mollusks.....		9, 250, 000
Helminths.....		44, 400
Echinoderms.....		179, 137
		<hr/>
Total.....		24, 605, 016

INSTALLATION AND PRESERVATION OF COLLECTIONS

Cataloging.—During the year 94,289 specimens or lots of specimens were cataloged or processed, while 225,597 specimens were accessioned. The backlog of uncataloged specimens remaining at the end of the year totaled 1,115,041, an increase of 65,177 specimens over last year's total.

Exhibition.—Work on long-planned habitat groups for which the mounted animals have been completed was held in abeyance for lack of cases. The taxidermist staff, under the direction of W. L. Brown, chief exhibits preparator, kept busily engaged in making improvements in the exhibition series wherever possible. The cleaning of cases and the refurbishing of specimens on exhibition constitute a continuing operation, which includes straightening up labels, checking the fixtures of illuminated cases, making repairs and replacements where necessary, and fumigating all mounted specimens. The whale hall, including the material in the cases as well as that on the floor and on the walls, was gone over completely. Specimens and models on the walls and suspended from the ceiling in the fish and reptile halls were likewise given attention.

Four cases of mounted birds were modernized. The sides and back were covered with monks-cloth and the cases equipped with overhead fluorescent lighting. So treated and reinstalled in the public halls were the hoatzin group; the shoe-billed storks, formerly displayed on a mahogany base; the satin bowerbird group, which was enlarged and enhanced; and a case containing various species of European upland game birds. A fifth case in this series showing the curious and bizarre forms and patterns of the toucans of the American Tropics was completed in the shop but not in time to be placed on exhibition before the

close of the year. The ptarmigan groups, winter and summer, were given needed cleaning and repair.

Some work was accomplished on contemplated future exhibits. Eleven miniature models and cases were completed and five full-sized models. Molds and casts, as well as celluloid, plastic, and rubber reproductions of some 25 or more animals or parts of animals, were finished, as were also several sections of ground work for reptile displays and 32 casts of rock formations for the walrus exhibit. Seven specimens were removed from exhibition and replaced by a like number. Sixty-nine individual mounted animals were cleaned and repaired, most of them being the mounted heads hung in the east and west stairways of the Natural History Building. The specimens and cases of the index exhibit in the main hall of the Smithsonian Building were also cleaned.

In the division of insects about one-half of the Iddings exhibition collection of butterflies (*Rhopalocera*) was blocked and matted by W. D. Field, associate curator, but must await completion of appropriate labels before it can be again placed on public display.

Mammals.—A major accomplishment of the year in the division of mammals was the rearrangement of the collection of rodent skins by Dr. Setzer and Mr. Miller. This involved shifting approximately 50,000 specimens and relabeling the cases. The work of rearranging the specimens in the trays and bringing tray and specimen labels up to date yet remains to be done. The usual program of inspecting specimens and replenishing preservative and insect-repellent materials was carried out, except that complete fumigation of the skin collection was deferred until after the meeting of the American Society of Mammalogists in June. Some progress was made in the installation of new material in the main collection.

Birds.—The continuation of the work of merging the Fish and Wildlife Service bird collection with that of the Museum was carried about halfway through the ducks, and a very considerable amount of rearranging and expanding of badly crowded portions of the collection was accomplished, chiefly by Mr. Deignan. The families Picidae, Capitonidae, Indicatoridae, Bucconidae, Galbulidae, and Ramphastidae, totaling thousands of specimens occupying 33 quarter-unit cases and 2 half-unit cases, were so treated. In connection with the merging of the Fish and Wildlife Service and Museum collections, the contents of about 35 half-unit cases were shifted and rearranged. Several thousand old specimens were reidentified and labeled. All the birds accessioned during the year were identified to species and cataloged. All new lots, as well as the main collection, were thoroughly poisoned. A small number of specimens of skeletons, alcoholics, nests, and eggs were processed and incorporated into the main collections.

Reptiles.—Owing to the fact that the barrels used for the storage of larger reptilian specimens are deteriorating and that better containers cannot be secured for them, extensive skinning of the turtles so stored was undertaken. Some progress was made in this connection by the skilled laborer attached to the division. The wooden "air raid" screens make ready and frequent inspection of the alcoholic collection difficult, so that the collection cannot be said to be in the best of condition. Several skins were made up by the taxidermist force during the year.

Fishes.—The crowded condition of the alcoholic stacks in the division of fishes was improved by the installation of 35 dollies for holding crocks, freeing 70 shelves for bottle storage. In addition, 249 new shelves were installed. Cataloging, bottling, labeling, and filing of all smaller incoming collections were kept up to date. All containers were checked during the year by James E. Bush, skilled laborer. On the whole, the collection may be said to be in a satisfactory physical condition.

Insects.—O. L. Cartwright, associate curator, who joined the entomological staff in August, assumed the responsibility for the collection of Aphodiinae, consisting of approximately 40 museum drawers of unworked, mixed, and undetermined material, and since that time determined the specimens largely to genus, separated out American specimens, and identified about 90 percent of the segregated specimens to species and placed them in labeled trays. Further, the entire collection of coleopterous larvae was examined and put into excellent condition. Mrs. R. E. Blackwelder, working with Dr. Blackwelder, rendered a great deal of personal service, increasing many times the current usefulness of the Thomas L. Casey library housed in the division of insects. The Satyridae from the E. A. Smyth collection of Rhopalocera was incorporated into the regular collections by W. D. Field, associate curator. Six genera of Nymphalidae and Satyridae were studied and rearranged according to modern revisions.

Specimens of Collembola, Thysanura, Entotrophi, and Protura identified during the year were sorted and placed in jars for intercalation in the collection. For purpose of identification it is necessary to make one or more permanent slides, which are then added to the permanent slide collection. The alcohol in the entire collection was replenished; all the types were segregated, arranged systematically, and transferred to jars; and the whole of the collection of Poduridae was checked and placed in new containers where necessary. Grace E. Glance, associate curator, who has looked after most of the other groups in this section, has also taken over the Symphyla material and given it the same care, at the same time making cards for

each lot. The Thysanura are still on loan to Dr. C. L. Remington at Yale University.

During the year some progress was made in processing the Lepidoptera; and the entire collection of scorpions was examined and virtually all specimens identified at least to genus, putting that collection in excellent condition and making it available for serious work. The chilopods and pseudoscorpions were also rearranged. The Solpugida were taken over by Dr. Martin H. Muma, of the University of Nebraska, for the purpose of preparing an exhaustive report on the North American species. Richard L. Hoffman, University of Virginia, continued work on the diplopods under a grant from the Smithsonian Institution. The alcoholic collections of chilopods, diplopods, pseudoscorpions, scorpions, Solpugida, and spiders are now in good to excellent condition.

Marine invertebrates.—The skilled laborer, N. L. Livingston, spent considerable time this year in caring for the echinoderm collections and so found it impossible to refill the alcoholic lots of marine invertebrates as systematically as has been done in the past years. Nevertheless, the entire collection was gone over in a cursory manner and all jars that showed an unusual amount of evaporation were refilled. In addition, all large crocks were opened, refilled, and sealed with wax. Little progress was made with the inventory of the collections, but all the barnacles, the Nebaliacea, Anaspidacea, mysids, tanaids, and most of the isopods were checked and now may be added to the list of groups inventoried in previous years. The dry collection stored in the attic was in part rearranged by F. M. Bayer, assistant curator, and G. S. Cain, scientific aide, so that additional material could be filed in an orderly manner and more room provided for expansion. Mr. Bayer's interest in the alcyonarians, most of which are dry, brought the matter to a head. All identified slide material received during the year was cataloged. He also engaged in some experimentation to determine the feasibility of mounting a reference collection of various invertebrate groups in plastic. Mr. Cain rearranged the collection of maps and charts and practically completed an inventory of the entire divisional library, an important task required periodically in order that misfiled publications can be returned to their proper place and be available for reference.

Mollusks.—The physical condition of the dry and alcoholic study collections of shells is good. The program of rearrangement of these collections was continued, and a start made on the integration of all Hawaiian, Japanese, South African, and Bikini marine collections into one Indo-Pacific collection. At the same time, the large amount of accumulated, recently cataloged material was incorporated. The arrangement of the naiad collection was also continued and some

progress made in the rearrangement of the East Atlantic marine collection. The whole staff devoted many hours of concentrated effort to renumbering the index cards to the books in the library, with the result that now the entire section library is correctly indexed and properly arranged.

Helminths, corals, and echinoderms.—The helminth collection of alcoholic specimens and microscopic slides is in good physical condition, with the cataloging of current accessions up to date. However, much of the Henry B. Ward collection received several years ago still awaits cataloging. The coral collection, for want of the necessary staff, has received no curatorial overhauling in recent years. The usual work of preparing specimens of echinoderms and cataloging them was continued, and, in spite of the increased amount of material received, the general condition of the collection was improved.

Taxidermist shop.—In addition to their responsibility for the continuing care, installation, and improvement of the division's exhibits, the preparators and taxidermists rendered various necessary and useful services to the mammal, bird, and reptile divisions, among which may be enumerated: Skinning and making up the skins of 46 mammals and 41 birds; degreasing and remaking 89 bird skins; skinning 6 mammals, 2 turtles, and 1 lizard; beaming 6 mammal skins; cleaning 805 mammal skulls and 28 skeletons and 91 bird skeletons and 31 trunks; roughing out 13 mammal skulls and 3 skeletons and 33 bird skeletons; and blowing 2 eggs.

The chief exhibits preparator and his staff, moreover, devoted an appreciable part of their time to giving instruction in museum methods, technique, and laboratory and field preservation of natural history specimens, this year spending nearly four weeks, all told, instructing and supervising the work of eight individuals, including two from Latin America and one each from Egypt and the Philippines. Assistance was also given on four or more occasions to various parties photographing exhibits or portions of them to illustrate scientific and popular publications. In all, the taxidermists completed 219 requisitions in the course of the year.

INVESTIGATION AND RESEARCH

Mammals.—Dr. Remington Kellogg, director of the Museum and curator of mammals, has been assisting Gerrit S. Miller with the revision of the check-list of North American mammals, and considerable progress has been made in defining limits of ranges and intercalating published changes in taxonomy. He also made some progress on his revision of the Brazilian monkeys of the genus *Cebus*, spending some time studying comparative material in European museums at the close of the year. Dr. David H. Johnson, associate curator, continued to

work on the mammals collected during World War II in the Pacific Ocean area and made notes on specimens in Australian museums during the year for incorporation in the revision of the bats of the genus *Chalinolobus* that he has under way. Dr. Henry W. Setzer, associate curator, made preliminary studies of the material collected in the Nile Valley by P. Quentin Tomich for the U. S. Naval Medical Research Unit No. 3 with a view to making a report on the mammals. Philip Hershkovitz, of the Chicago Natural History Museum, continued his series of preliminary reports on the collections made by him in northern Colombia under the Walter Rathbone Bacon Traveling Scholarship. Of these reports the one on the monkeys and the one on the bats were published during the year.

Birds.—The curator of birds, Dr. Herbert Friedmann, published a book, "The Parasitic Cuckoos of Africa," and accomplished some revisionary work on the manuscript of part 11 of the "Birds of North and Middle America" before it went to press. As time permitted, work was continued on part 12 of this work. A large report on northeastern Venezuelan birds with Foster D. Smith, Jr., and a paper on the breeding behavior patterns of the weaverbirds were completed, and six shorter papers and a number of book reviews were published, as well as two papers with Dr. A. Wetmore relative to work of the American Ornithologists' Union Check-List of North American birds. During the year Dr. Friedmann took over much of the work of preparing revisions of ranges of the passerine birds of North America for the new Check-List, and contributed bibliographic data on the ecology of marine birds and on the paleoecology of birds to the Report of the Committee on a Treatise on Marine Ecology and Paleoecology of the National Research Council. H. G. Deignan, associate curator, continued work on his critical catalog of the type specimens of birds in the Museum and on his check-list of the birds of the Indochinese Region. In connection with the latter, numerous revisionary studies were made leading to the publication of two short papers and the production of other studies on Oriental birds. Dr. A. Wetmore devoted most of his research time to the preparation of various items connected with the fifth edition of the A. O. U. Check-List of North American birds, to work on his collections from Panama and Colombia, and to studying some fossil bird bones, publishing papers on a Pleistocene record for the American merganser in Illinois and on the pied-billed grebe in Mexico.

Reptiles and amphibians.—Dr. Doris M. Cochran, associate curator, about completed the text of her large manuscript on the frogs of southeastern Brazil and continued work on the illustrations, most of which yet remain to be made. She also assisted a number of students with their herpetological problems during the year.

Fishes.—Dr. Leonard P. Schultz, curator of fishes, assisted for varying periods of time by Loren P. Woods, of the Chicago Museum of Natural History, Dr. Edward A. Raney, of Cornell University, and Dr. Ernest A. Lachner, associate curator, has been engaged for the greater part of the year in the preparation of a comprehensive descriptive catalog of the fishes of the northern Marshall Islands, based on collections made at the time of the Bikini atom-bomb experiments. This important project is about three-fourths complete, 49 families of fishes, involving 334 species, having been worked up. Five papers were published by Dr. Schultz, two jointly with Loren P. Woods, while a sixth, also with Mr. Woods as joint author, entitled "Keys to the Genera of Echelid Eels and the Species of Muraenichthys of the Pacific, with Two New Species," was accepted for publication and sent to the printer. Dr. Robert R. Miller, associate curator, published three papers, two with Dr. C. L. Hubbs and one with R. G. Miller, dealing with the fresh-water fish fauna of the Western States, and a fourth with Donald S. Erdman on "The Range and Characters of *Synchirus gilli*, a Remarkable Cottid Fish of the Northeastern Pacific."

Insects.—Dr. E. A. Chapin, curator of insects, published two short papers, of which one dealt with the type material of the Charles Schaeffer species of Cleridae in available collections; lectotypes were designated for all species. Further work on the Coccinellidae of Colombia was made possible by a three weeks' visit to the British Museum. There a study of all available types of Neotropical Coccinellidae made possible the identification of most of the Colombian species of Hyperaspinae. The associate curator, Dr. R. E. Blackwelder, carried forward two research problems, both largely bibliographic: the first, part 6 (the bibliography) of the Checklist of Latin American Coleoptera, continued vigorously with the help of Mrs. Blackwelder; and the second, the study of the generic names of Staphylinidae, comprising about 1,000 pages of manuscript, dealing with the genotypes, synonymy, and orthography of over 2,500 names. As a result of studies made in this connection, Dr. Blackwelder undertook the preparation of a first draft of an exhaustive essay on principles and practices of genotypy and also devoted considerable time to nomenclatorial problems for the National Museum Nomenclature Discussion Group.

Since there are no published catalogs for the Collembola, Thysanura, Entotrophi, and Protura, Miss Grace E. Glance, associate curator, was forced to spend a great deal of time working with literature. Collaborating with other interested workers and keeping in close touch with the files of the Bureau of Entomology and Plant Quarantine, she built up a fairly complete file of references for the Collembola and made some progress with author catalogs of the other groups.

O. L. Cartwright, associate curator, gave special attention to the Museum collection of Aphodiinae, with a view to revising American genera and species of the group, beginning with the genus *Psammoidius*. The trophi, particularly the epipharynx, of the various genera and species of the Aphodiinae are being carefully examined in the hope that additional useful characters may be found for separating genera and species.

In the Lepidoptera, W. D. Field, associate curator, continued research toward the revision of New World Lithosiinae. He completed and submitted for publication a manuscript revising four genera in this subfamily and essentially completed the study of two more except for about half of the manuscript. Two hundred genital preparations were made in connection with these studies and three hundred additional in a single genus in connection with a revision of the New World Theclinae, doubling the number of known species in the genus. Two hundred reference slides of wings, representing 100 genera and groups of Rhopalocera, were also made in continuation of work on the family classification of Rhopalocera.

Marine invertebrates.—The curator of marine invertebrates, Dr. F. A. Chace, Jr., completed and submitted for publication an exhaustive study of the oceanic crabs of the genera *Planes* and *Pachygrapsus*, as well as a brief survey of the spiny lobsters of the world. He continued work on a review of the anomuran crabs of the family Porcellanidae from West Africa and the revision of the coral crabs of the genus *Trapezia* initiated earlier. The associate curator, P. L. Illg, published a paper on the family status of the rare copepod genus *Pharodes* and continued his investigations on the commensal copepods of the cyclopod family Lichomolgidae and of certain notodelphyoid genera, and on the generic status of some of the copepod parasites of fishes. Though not neglecting the handbook of the West Indian Alcyonaria, which he has in preparation, F. M. Bayer, assistant curator, completed a review of the Alcyonaria of the *Albatross* Hawaiian cruise and the descriptions and diagnoses of a new subfamily, genus, and two new species of Chrysogorgiidae. C. R. Shoemaker, associate in zoology, completed three manuscripts during the year and continued his studies of the American amphipods of the family Talitridae. Mrs. Mildred S. Wilson, collaborator in copepod Crustacea, whose studies had been interrupted by her removal to Alaska and by illness, resumed active work on the commensal and parasitic copepods in which she was especially interested, as well as on the larger monographic treatment of the species of *Diaptomus* she had also undertaken.

The untimely death of Dr. J. A. Cushman, collaborator in Foraminifera, resulted in a need for greater emphasis on that group within the Institution. With this end in view, plans were laid for the trans-

fer of the collection of Recent Foraminifera to the Division of Invertebrate Paleontology and Paleobotany, where it will be incorporated with the fossil forms.

As in past years, volunteer specialists in other institutions, to whom the Institution is greatly indebted for the services rendered, kindly identified material of various groups at our request. A total of 44 shipments, five more than last year, representing more than 1,250 specimens, were sent to 25 such workers as follows: Donald P. Abbott, tunicates; Dr. Albert H. Banner, mysidacean crustaceans; Mrs. G. C. Carl, cumacean crustaceans; Dr. Wesley R. Coe, nemertean worms; Dr. Elisabeth Deichmann, alcyonarians; Dr. W. K. Fisher, echiuroid and sipunculoid worms; Dr. John S. Garth, crabs; Dr. Gordon E. Gates, earthworms; Dr. Olga Hartman, polychaete worms; Dr. Melville H. Hatch, isopod crustaceans; Joel W. Hedgpeth, pycnogonids; Dr. Dora P. Henry, barnacles; Leslie Hubricht, amphipod crustaceans; Dr. H. Gordon Jackson, isopod crustaceans; Dr. R. W. Kiser, cladoceran crustaceans; Dr. M. W. de Laubenfels, sponges; Dr. Folke Linder, branchiopod crustaceans; Dr. N. T. Mattox, conchostracan crustaceans; Robert J. Menzies, isopod crustaceans; Dr. Marvin C. Meyer, leeches; Stanley Mulaik, isopod crustaceans; Dr. Raymond C. Osburn, bryozoans; Dr. Edward G. Reinhard, rhizocephalan crustaceans; Dr. Wilbur M. Tidd, copepod crustaceans; and Dr. Willis L. Tressler, ostracod crustaceans.

Mollusks.—Dr. Harald A. Rehder, curator, worked on several small problems connected with the Antillean marine fauna and continued his researches on terrestrial mollusks. The associate curator, Dr. J. P. E. Morrison, was steadily engaged with the marine mollusks of Bikini and the northern Marshall Islands, studying in particular the families Muricidae, Cymatiidae, Bursidae, Trochidae, and Haliotidae, while continuing in part his research work on the Pleuroceridae, Melaniidae, and Amnicolidae. The assistant curator, R. Tucker Abbott, accomplished considerable research on the anatomy and speciation in the group of the fresh-water mollusk *Thiara* (*Tarebia*) *granifera* Lamarck and, in collaboration with Col. George W. Hunter, 3d, U. S. A., completed a paper on snail hosts of *Schistosoma* in Japan. He also published several small papers during the year. Dr. Paul Bartsch, associate in mollusks, practically finished his larger work on the Cuban members of the land snail family Urocoptidae, and also worked on two papers dealing with Mexican Urocoptidae and the west American Turritidae.

Echinoderms.—The curator, Austin H. Clark, published or has in press four papers on sea-stars, sea-urchins, brittle-stars, and crinoids from Indo-Pacific and Atlantic waters, and completed his study but not the manuscript report on a large and diverse collection of echino-

derms taken from buoys and mooring chains on all coasts of the United States (except Alaska) and submitted by the Woods Hole Oceanographic Institution. He also nearly completed a report on the echinoderms of the United States Navy Antarctic Expedition 1947-48 and began work on the brittle-stars brought together over a period of several years by Dutch surveying steamers in the Netherlands East Indies. The manuscript of the next part of Mr. Clark's "Monograph of the Existing Crinoids" (Bulletin 82) went to the printer late in the year.

Research by outside investigators.—A total of 474 outside investigators or serious students of some field of zoology consulted or studied collections or worked in our laboratories for varying periods of time from an hour or two to many months, besides uncounted, often casual, lay visitors seeking more or less popular or general scientific information, the classification of animals they have encountered, or the identification of objects of a biological nature from various sources.

Well over 50,000 specimens, approximately the same number as in the preceding year, in 331 separate shipments, 19 less than last year, were lent for study elsewhere. Some 38,689 specimens were sent to the department in 614 transactions with requests for determinations. From these and earlier shipments and accessioned material over 51,000 were identified by members of the departmental staff. In addition, the staff handled 115 manuscripts for about as many authors, giving advice concerning them, revising, editing, or evaluating them. A great deal of specialized and miscellaneous zoological information was also furnished in response to inquiries made by letter and telephone. The requests were many and varied, covering such subjects as lists of animals occurring in certain regions; the distribution or known ranges of various animals; descriptions of particular animals; lists of books and references; comparison of a specimen or specimens submitted with types or other authoritatively determined specimens in our collections; information concerning the host, parasite, or ecologic relations of specific animals; medical importance, economic use or value, habits, longevity, and reproduction of animals; the possibilities of successfully instituting commercial fisheries for certain animals in particular parts of the world; the propagation of various species for profit; advice on equipment and personnel for expeditions; methods of preserving, mounting, and displaying different kinds of animals; and construction of display cases, making of accessories, and illumination of exhibits.

DEPARTMENT OF BOTANY

(E. P. KILLIP, *Head Curator*)

THE department of botany completed its first year with its present organization of four divisions, phanerogams, grasses, ferns, and cryptogams, the division of ferns having been established on July 1, 1948, with C. V. Morton as curator. In September Dr. Albert C. Smith assumed his position as curator of the division of phanerogams, to which were appointed as assistant curators Miss Velva E. Rudd and Miss Sylvia A. White. Mr. Morton replaced Mr. Killip as acting curator of the division of cryptogams. Dr. O. F. Cook, of the Department of Agriculture, who served for many years as an honorary curator of the cryptogamic collections, died on April 23, 1949.

The increase in personnel during the past two years was strongly reflected in greater activity in many lines. Several papers were submitted for publication, and progress was made toward the completion of others. Through the concentrated efforts of members of the staff, the number of duplicates distributed to other institutions and individuals as exchanges showed a marked increase over recent years. Accessions were somewhat smaller in both number of specimens and lots than in 1947-48, owing largely to the fact that two cryptogamic collections of unusual size were accessioned in the preceding year. Specimens submitted for identification showed considerable increase over the preceding year, several large lots having been received from collectors working in Colombia. As usual, much material was lent for study, the number of specimens being much greater than last year though the individual lots were fewer.

The work of repainting the entire herbarium hall and installing lights in the east half was completed in September, in time for a reception given by the department to botanists attending the meetings of the American Association for the Advancement of Science and affiliated societies. More than 125 guests were present at this gathering, including visitors from India, South Africa, Sweden, Canada, and several Latin American countries.

At the invitation of the Instituto Miguel Lillo, the head curator, Mr. Killip, and Dr. Lyman B. Smith, associate curator in charge of the South American collections of the division of phanerogams, attended the Second South American Botanical Congress at Tucumán, Argentina. At the conclusion of the congress the delegates partici-

pated in a 10-day excursion, which covered much of northwestern Argentina. After a short visit to Buenos Aires, where, with other botanists, they visited several herbaria and attended a reception given by the President of the Republic, Mr. Killip returned to the United States by way of the west coast and Dr. Smith by the east coast. Mr. Killip spent several days in Chile, in the course of which he made large collections in the Santiago-Valparaiso region in company with Señor Edmundo Pisano, of the Chilean Department of Agriculture. After a brief stay at Lima, Mr. Killip proceeded to Colombia, where he continued field work and herbarium studies at Cali, Medellín, and Bogotá, and had numerous conferences with local botanists. The concluding portion of his trip was spent at Barro Colorado Island, maintained as the Canal Zone Biological Area by the Smithsonian Institution. Dr. Smith, after leaving Buenos Aires, visited São Paulo and Rio de Janeiro, calling at the important herbaria in those cities and making collections.

Dr. E. H. Walker, associate curator in the division of phanerogams, attended the Seventh Pacific Science Congress, held in New Zealand between February 2 and 22. He remained in that country, under the auspices of the University of New Zealand, for about six weeks after the adjournment of the congress to carry on field work and to become acquainted with the numerous institutions engaged in botanical study. Many localities throughout the two main islands and Stewart Island were visited, and a total of 1,224 field numbers and about 3,400 specimens are represented in his collections. While in New Zealand Dr. Walker delivered ten talks on botany before various groups; he also had numerous conferences with botanists, advising them on recent advances in the techniques of plant collecting and preparation. Arrangements were made for the exchange of material with the United States National Museum.

At the request of the Division of Forage Crops and Diseases, U. S. Department of Agriculture, Jason R. Swallen, curator of grasses, visited the Experiment Station at Madison, Wis., and the Great Plains Field Station at Mandan, N. Dak., in connection with the forage-crop work being carried on at these places. Field studies and identifications were made and pertinent material collected. He spent three weeks in Texas making a survey of the grasses of the Kingsville region at the request of Dr. C. L. Lundell, director of the Texas Research Foundation, and collected approximately 2,000 specimens.

Dr. George A. Llano, associate curator of cryptogams, left in June for three months of field work in Alaska. The project, sponsored by the Arctic Institute of North America, consists of general field collecting and a special study of the ecology of the lichens of the Arctic slopes of the Brooks Mountains in northern Alaska.

Paul S. Conger, associate curator in charge of the diatom collections, spent two months during the summer of 1948 at the Chesapeake Biological Laboratory, Solomons Island, Md., doing field work in collaboration with members of the staff of that institution.

Research Associate F. A. McClure spent nearly 9 months in Guatemala, El Salvador, Honduras, Puerto Rico, Jamaica, and Trinidad, supervising bamboo plantings and experimental work on the propagation of bamboos, with the aim of establishing them as a commercial crop. Herbarium material of native bamboos was collected for eventual incorporation in the National Herbarium.

ACCESSIONS

During the year 38,708 specimens in 408 lots were accessioned by the department, in comparison with 54,292 specimens and 402 lots received in 1947-48.¹ This material was divided among the divisions as follows: Phanerogams, 27,452 specimens; grasses, 5,017; ferns, 2,500; cryptogams, 3,739. Several large collections contained important material for three or four of the divisions. Among these were two lots, with 2,382 specimens, collected in Fiji by Dr. A. C. Smith, received as an exchange from the Arnold Arboretum of Harvard University. The Facultad de Agronomía, Universidad Nacional, Medellín, sent as an exchange or a gift, in four lots, 5,854 specimens collected in Colombia by Dr. F. A. Barkley and his associates, identifications being requested for most of them. The National Szechwan University presented, through Dr. W. P. Fang, 2,157 Chinese plants in two lots. E. P. Killip collected for the Museum 1,291 specimens in Argentina, Chile, Colombia, Panama, and Florida. From the Arnold Arboretum of Harvard University 411 specimens from Micronesia, collected by C. Wong, were received as an exchange. The Allan Hancock Foundation sent in exchange 480 specimens from Mexico and Central America, collected by Dr. H. S. Gentry. Four lots, totaling 3,069 specimens, were received from Virginius H. Chase, the material being collected mainly in Illinois and accessioned as a gift or an exchange. Received as an exchange in two lots from the University of Georgia were 766 specimens.

Phanerogams.—Among other collections of special value in this division were the following: The Division of Rubber Plant Investigations, Bureau of Plant Industry, Soils, and Agricultural Engineering, transferred in four lots 865 specimens collected by Dr. Richard E. Schultes, mainly in the interesting eastern part of Colombia adjacent to the Río Vaupés. There were purchased in three lots from the Chi-

¹The number of specimens accessioned in the past 10 years is as follows: 1938-39, 50,409; 1939-40, 47,775; 1940-41, 37,225; 1941-42, 36,303; 1942-43, 34,298; 1943-44, 36,240; 1944-45, 30,442; 1945-46, 41,943; 1946-47, 43,695; 1947-48, 54,292.

chicago Natural History Museum 1,950 photographs of type specimens in European herbaria, bringing the total number of that important series of photographs in the National Herbarium to nearly 25,000. Mulford B. Foster presented 218 specimens, mostly Bromeliaceae, collected by him in South and Central America, for study by Associate Curator Lyman B. Smith. Other important accessions, all received as a gift or an exchange, in some instances with a request for identifications, were these: 599 specimens from Surinam and British Guiana, collected by Dr. Bassett Maguire, distributed by the New York Botanical Garden, the material including many isotypes and other rare specimens; 483 specimens from the islands of the Pacific, received from the Bernice P. Bishop Museum; 489 specimens of Mexican plants collected by Dr. H. E. Moore, received from the Gray Herbarium of Harvard University; 159 specimens from the Río Vaupés region of Colombia, collected by Paul H. Allen, sent by the Missouri Botanical Garden; 589 specimens from Central America, collected by Dr. L. O. Williams and associates, received from the Escuela Agrícola Panamericana, Tegucigalpa; 311 specimens collected in the vicinity of Great Bear Lake, Canada, an exchange with the University of Michigan; 227 specimens from the Bahama Islands, collected by Dr. R. A. Howard and received from the New York Botanical Garden; 319 specimens of Colombian plants, collected mostly by Dr. J. Cuatrecasas, and 247 specimens from Guatemala, collected by Paul C. Standley, both lots received from the Chicago Natural History Museum; 220 specimens of European plants, from the Naturhistorisches Museum, Vienna; and 259 specimens from Japan, transferred by the Department of the Army.

Grasses.—Many of the more important lots accessioned by the division of grasses were received with a request for identifications. Among such were: 394 Mexican specimens, from the Oficina de Estudios Especiales, Mexico City; 439 Argentine specimens from the Instituto Miguel Lillo, Tucumán; 119 specimens from French Indo-China, received from the Institut des Recherches Agronomiques, Saigon; 56 specimens from Mexico sent by the University of California; 76 Peruvian specimens from Dr. César Vargas, Cuzco; 79 specimens from Mexico and Guatemala, received from the University of Tennessee; 148 specimens from Georgia, in 3 lots from the University of Georgia; 86 specimens from Mexico, received in 2 lots from the Allan Hancock Foundation. Other noteworthy accessions were: 105 specimens from Paraguay and India, received as a transfer from the Bureau of Plant Industry, Soils, and Agricultural Engineering; 131 specimens from Peru, transferred in 4 lots by the Institute of Inter-American Affairs; 760 specimens from Illinois, presented in 2 lots by

Virginius H. Chase; and 104 specimens from Africa, received in exchange from the Royal Botanic Gardens, Kew.

Ferns.—The more noteworthy accessions in this division were the following: 295 specimens from Micronesia, received from the Bernice P. Bishop Museum, Honolulu; 216 specimens from Mexico and Guatemala, collected by Dr. A. J. Sharp, received from the University of Tennessee; 116 specimens from San José Island, Panama, collected by Dr. I. M. Johnston, from the Arnold Arboretum of Harvard University; and 133 specimens from Honduras and Guatemala, collected mostly by Dr. Louis O. Williams, received from the Escuela Agrícola Panamericana, Tegucigalpa. In the case of many of these, identifications were requested.

Cryptogams.—Several large collections of lower cryptogams were received during the year, among which may be mentioned the following: 602 lichens from various regions, a gift from Dr. Gunnar Degelius, University of Uppsala; 268 algae from Java and the Philippine Islands, an exchange from the University of Michigan; 381 lichens from Panama, collected by Dr. P. F. Scholander, a gift from the Arctic Research Laboratory, Office of Naval Research, Department of the Navy; 293 lichens from Greenland, in exchange with the Universitets Botaniske Museum, Oslo; 225 lichens from Alaska, a gift from the Arctic Research Laboratory; 150 lichens from Panama, presented by Dr. George A. Llano; and 110 miscellaneous specimens from Alaska, a gift from Miss Margaret E. Bell.

Distribution and exchange of specimens.—In continuation of exchanges 27,806 specimens were sent out to 120 different institutions and individuals, in 143 lots. This is a large increase over the preceding year, when 4,403 specimens were so distributed, and exceeds by nearly 10,000 the largest distribution made in any single year since the outbreak of the war. These exchanges were divided among the divisions thus: Phanerogams, 19,810 specimens; grasses, 4,118; ferns, 3,480; cryptogams, 398. There are relatively few duplicates on hand in the divisions of phanerogams and ferns ready to be sent out. In the division of grasses there are about 18,000 specimens of "Centuries of American Grasses" to be distributed during the coming year. During 1948-49 the division of cryptogams concentrated on other forms of curatorial work so that it was not possible to have a general distribution of duplicates.

The cosmopolitan nature of the exchange relations maintained by the department may be seen by the geographical distribution of the recipients outside the United States, which is as follows: Argentina (6), Australia (5), Canada, Brazil, Colombia (4 each), Chile, England, Sweden, Switzerland (3 each), Czechoslovakia, Italy, Netherlands (2

each), and 1 each to Costa Rica, the Dominican Republic, Honduras, Mexico, Peru, Uruguay, Austria, Belgium, Denmark, France, Germany, Poland, Portugal, Spain, the Soviet Union, S. S. R. Armenia, South Africa, India, Java, and the Straits Settlements.

Number of specimens under the department.—An estimate of the number of specimens in the divisions and the total in the department is given in the following table. It is, of course, appreciated that in the division of cryptogams a "specimen" may often refer to crude samples consisting of a great many individuals. Duplicate material awaiting distribution is not included in these figures:

Phanerogams.....	1,529,162
Grasses.....	318,941
Ferns.....	190,039
Cryptogams:	
Diatoms.....	46,188
Fungi.....	78,946
Other cryptogams.....	204,859
	329,993
	2,368,135

INSTALLATION AND PRESERVATION OF COLLECTIONS

In all, 28,848 specimens of flowering plants and ferns were mounted, wholly by adhesive straps and sewing, 24,200 of these by contract and 4,648 by the staff preparators. In addition, 3,233 photographs of specimens (3,000 of them by contract) and 4,289 pockets of lower cryptogams were pasted to sheets. This is an increase over the preceding year of about 4,500 items made ready for insertion in the herbarium. About 6,700 specimens were repaired, mostly in connection with the preparation of loans to be sent out. Of flowering plants and ferns awaiting mounting there are about 16,500 specimens. The estimated backlog of all unprocessed specimens in the four divisions at the close of the year was 181,421, a reduction of 26,951 from the estimate of a year ago.

During the year 31,235 specimens of flowering plants and ferns were stamped and recorded, an increase of more than 5,000 over 1947-48. They were divided as follows: Division of phanerogams, 21,600; division of grasses, 8,053; division of ferns, 1,582. The cryptogamic collections are not stamped and cataloged at present.

Specimens distributed into the herbarium totaled 37,853, an increase of more than 11,000 over the number incorporated last year.

To the collection of types and isotypes maintained as a separate unit by the department 457 specimens were added during the year, bringing the total number of specimens in this herbarium to 48,206. They are

divided among the divisions thus: Phanerogams, 35,619; grasses, 9,543; ferns, 2,979; cryptogams, 92.

The usual routine care was given the departmental library by Dr. Walker. The bookcases were rearranged in order to provide office space for the curator of phanerogams and his secretary. Dr. Walker assisted Japanese and Chinese botanists to obtain publications in this country and turned over to the Smithsonian Institution various publications received in exchange.

Phanerogams.—During the year 22,634 phanerogamic specimens were incorporated in the herbarium, an increase of 8,009 over last year. The estimated backlog of 99,959 specimens on June 30, 1948, was reduced by 14,992, due in large part to the extensive shipments of duplicate material to other institutions in exchange.

The usual November and May fumigations of the entire herbarium were made, and no damage from insects has been noted. All specimens of the division, both new specimens and returned loans, are poisoned upon receipt.

Delivery of 55 new herbarium cases was begun late in the year and was completed at its very end. Except for 11 that were assigned to the division of cryptogams, they were placed on the balcony of the main herbarium hall and on the third tier in the east end of the hall. A start was made on the planned rearrangement of the phanerogam herbarium by transferring the mosses to new cases in the cryptogam herbarium; the general shift of the phanerogams could not be commenced until all the new cases were in place.

The fruit collection of the division, which had been stored in the cryptogamic herbarium, was moved to a position on the third tier of the main herbarium hall, where it occupies four cases and can be readily consulted, except for the inconvenience that always attends the use of third-tier cases. Miss Rudd has rearranged the fruit collection and added 24 specimens during the year, bringing the total number of fruit specimens to 999.

Grasses.—In the grass herbarium 6,229 specimens were filed during the year, an increase of more than 2,000 over the figure for 1947-48. No major changes were made in the arrangement of the collections. Sufficient shifting of the material in the most crowded cases was done to permit the insertion of the specimens incorporated this year. Early next year several additional cases will be available, and the entire herbarium will be shifted so that the specimens awaiting incorporation can be inserted.

To the Hitchcock and Chase library 128 publications were added, consisting mostly of reprints of taxonomic articles on grasses. Perhaps worthy of special mention is a book entitled "Minutes in Agriculture and Planting," published in 1804, deposited by the daughter

of the late S. H. McCrory. Actual specimens of agricultural grasses in use at that time are included in the book. The number of entries now cataloged in the library is 6,728. The various indexes of grasses have been kept up to date; 183 cards were added to the species index, which now contains 77,183 cards.

Ferns.—The curator of ferns incorporated 2,968 specimens in the herbarium during the year. No major changes have been made in the organization of the collections during the year, but Mr. Morton has continued with the work of rearranging them on a geographic rather than an alphabetical basis.

Cryptogams.—During the year 4,289 pockets were mounted by preparators or members of the staff. A large number of algae are now ready for mounting. In the section of diatoms 40 specimens were mounted on slides and inserted in the collection. Several thousand specimens of rust fungi of the W. H. Long herbarium were packeted and labeled by John A. Stevenson, and 382 specimens of fungi were mounted and added to the general collection deposited at present at the Plant Industry Station.

The general cryptogamic collections were extensively reorganized during the year, about 6,000 specimens being incorporated by Dr. Llano. The algae were transferred to the hallway outside the cryptogamic room and the 15 cases containing the general collections of mosses, as well as two cases with cryptogams from the local area, were shifted from the balcony of the main herbarium hall to the cryptogamic room. Four cases of the mosses are now stored in corrugated cardboard boxes instead of in standard herbarium cases. This procedure is safe as mosses are not subject to insect infestation and do not need to be fumigated. The extensive accumulation of unprocessed cryptogams was sorted in a preliminary manner by Dr. Llano, and will be gone over, group by group, during the coming year. The bottled collection was reorganized, new corks and additional preservative being added as necessary.

No catalogs are maintained at present by the division. It is hoped that the collections of bryophytes, lichens, and algae can sometime be numbered serially and recorded. Catalogs can then be maintained currently up to date.

In the section of diatoms the transfer of samples to a new type of container was continued, allowing the collections to be stored and handled more easily and making the refilling of the bottles with preservative a simpler matter.

INVESTIGATION AND RESEARCH

In addition to carrying on routine studies of a large number of specimens received for examination and report, staff members were

able to accomplish considerable original research, 16 papers being submitted for publication during the year. Most of this work was, of course, performed at the National Herbarium, but many of the staff members found opportunity to conduct their studies at other institutions. Mr. Killip and Dr. L. B. Smith examined material at various herbaria in South America during and after the Botanical Congress. Dr. Smith also studied at the Gray Herbarium of Harvard University, the New York Botanical Garden, the Chicago Natural History Museum, and the Missouri Botanical Garden. Dr. A. C. Smith spent several days at the New York Botanical Garden. Mr. Swallen consulted the grass collections at the University of Wisconsin, University of Minnesota, and the Texas Research Foundation, and Mr. Morton the fern collections at Harvard University and the New York Botanical Garden. The Farlow Herbarium, Osborn Botanical Laboratory, Missouri Botanical Garden, and the Academy of Natural Sciences, Philadelphia, were visited by Dr. Llano in connection with his study of lichens. Miss Rudd spent a short time at the North Dakota Agricultural College.

Material sent for identification came in 389 lots and totaled 22,859 specimens, an increase of 9,855 specimens over the corresponding figure for the preceding year. About 11,700 identifications were reported, some of them, however, relating to material received in previous years. Among branches of the Government for which plants were studied were the Division of Plant Exploration and Introduction, Division of Rubber Investigations, Soil Conservation Service, National Park Service, National Capital Parks, Federal Bureau of Investigation, Weather Bureau, Public Health Service, and the Institute of Inter-American Affairs.

Phanerogams.—The curator of phanerogams, Dr. A. C. Smith, completed studies of recent South American collections of the families Myristicaceae, Hippocrateaceae, Ericaceae, and Vacciniaceae, submitting three papers on these groups for publication; two of these will be included in Dr. Julian A. Steyermark's report on his important Venezuelan collections. Dr. Smith also initiated a study of collections he made in Fiji in 1947 and has done at least preliminary work on about one-third of the families. Two papers discussing aspects of the Fijian work were published, and an article on plant nomenclature was submitted for publication.

Mr. Leonard devoted most of his research time to the preparation of an illustrated revision of the Acanthaceae of Columbia, the first part of which was finished toward the close of the year.

Dr. Walker completed, in collaboration with Robert Rodin, an article discussing additional phanerogams in the flora of Guam, thus bringing to a conclusion his long-standing work with the wartime servicemen's collections. Progress was made by Dr. Walker on the

following research projects: An illustrated treatment of the Myrsinaceae of Mount Omei, Szechwan; a supplementary study of the eastern Asiatic Myrsinaceae, continuing his earlier research in this field; further work on the manuscript of the supplement to the "Bibliography of Eastern Asiatic Botany" by Merrill and Walker, the assistance of a Japanese translator having been made possible by a grant from the Smithsonian Institution.

Dr. L. B. Smith continued his work on accounts of the Bromeliaceae of Colombia, Bolivia, and Brazil, and in connection with this family he published during the year treatments of certain Bolivian and Ecuadorian species. A paper containing descriptions of 34 new species from various countries, chiefly from Colombia and collected by Mulford B. Foster, was submitted for publication. Research in the genus *Begonia*, in collaboration with Dr. Bernice G. Schubert, of the Gray Herbarium, is being continued by Dr. Smith, who has also nearly completed a fully illustrated account of this genus for the Flora of Panama, now in course of publication.

Miss Rudd began a monographic study of the genus *Aeschynomene*.

The research work of the head curator, Mr. Killip, was confined to a few families in connection with the proposed Flora of Colombia and was carried out largely in collaboration with the visiting Colombian botanists, J. M. Idrobo and Alvaro Fernández.

Grasses.—Mr. Swallen completed a short paper on a new species of *Agrostis* from California and continued work on the grass portion of the Flora of Guatemala, now being published by the Chicago Natural History Museum. Mrs. Agnes Chase, research associate, spent much time rechecking the manuscript of the revised edition of the "Manual of Grasses of the United States," which now seems assured of publication in the near future. Dr. F. A. McClure, research associate, continued his studies of American bamboos and completed several important papers.

Ferns.—During the year Mr. Morton prepared a treatment of the Isoëtaceae, Equisetaceae, Lycopodiaceae, and Ophioglossaceae for publication in Dr. H. A. Gleason's new "Illustrated Flora of the Northeastern United States and Canada." He also wrote a new treatment of the ferns and fern allies for the second edition of Dr. T. H. Kearney's "Flowering Plants and Ferns of Arizona." Study of the ferns of tropical America was continued by Mr. Morton.

Cryptogams.—Mr. Conger kept on with his study of the diatoms of Chesapeake Bay, and the preparation of a history of the diatom deposits and diatomists of Richmond. He continued his study of diatom movement in connection with a new theory he has developed. He experimented also with a method for single-cell, open-water diatom culture, and carried on studies on the ecology of diatoms on submerged surfaces, primarily those of the larger aquatic plants.

Dr. Llano completed a monograph of the lichen family Umbilicariaceae as represented in the Western Hemisphere. This work, begun before his association with the National Museum, consists of a taxonomic treatment of the species of North and South America, including the Arctic and Antarctic regions, and contains also many notes on species of the Old World. In connection with this work more than 3,000 specimens from 90 herbaria distributed throughout the world have been studied and annotated. He experimented with methods of quickly making permanent sections of lichens by the use of the freezing microtome, dyes, and plastic mounting media.

Mr. Leonard, of the division of phanerogams, continued his study of the cryptogamic flora of the Patuxent Research Refuge, Maryland.

Research by outside investigators.—As usual, the collections of the department were frequently consulted by staff members of the Department of Agriculture, the Fish and Wildlife Service, the Geological Survey, and other Government agencies. An exceptionally large number of out-of-town visitors to the department was recorded during the year, due in part to the scientific meetings held in Washington in September; 78 of these visitors carried on research studies in the herbarium. Authors other than members of the staff published during the year 66 papers based in part on material in the National Herbarium.

There were informally lent the Department of Agriculture 484 specimens, in 21 lots, for study by its staff. To institutions and individuals outside Washington 15,906 specimens in 125 lots were lent, an increase of slightly more than 4,000 specimens but a considerable decrease in the number of transactions in comparison with 1947-48. The material was represented among the four divisions thus: Phanerogams, 10,394 specimens in 90 lots; grasses, 1,650 specimens in 4 lots; ferns, 919 specimens in 11 lots; cryptogams, 2,943 specimens in 20 lots.

In last year's report mention was made of the efforts of the department to obtain the return of material lent European and Chinese institutions prior to the war by several botanical institutions of the United States. The Department of State was instrumental in bringing about the return of 1,403 fern specimens lent the Fan Memorial Institute, Peiping, several years ago. For their return in good condition, credit is due Dr. H. H. Hu, director of the institute. Through the cooperation of the Department of the Army all specimens that had been lent by the National Museum to the Botanical Museum at Munich were returned. Likewise through the efforts of the Army, 2,572 specimens, which had been lent museums at Berlin and Munich by six other institutions in this country and by the National Museum, Manila, were returned to the Smithsonian Institution and forwarded to the lenders.

DEPARTMENT OF GEOLOGY

(W. F. FOSHAG, *Head Curator*)

ADDITIONS to the staff of the department of geology during 1949 and enhanced research facilities are chiefly responsible for a marked increase in the value of new accessions and a broadening of the fields of research. During the fiscal year Dr. David Nicol was appointed associate curator in Tertiary paleontology, Miss LaVerna Pendleton cataloger in the division of invertebrate paleontology, and William D. Crockett scientific illustrator in the division of vertebrate paleontology. Dr. Ray S. Bassler retired as head curator of the department on July 31, 1948, after 47 years of service with the National Museum, and Dr. William F. Foshag was named to succeed him. Dr. Foshag remains, however, acting curator of mineralogy. Miss Mildred E. Joseph was appointed secretary to the head curator's office.

Two valued collaborators died during the year: Dr. Joseph A. Cushman, collaborator in Foraminifera, on April 16, 1949, and Dr. Whitman Cross, associate in petrology, on April 20, 1949. Under the terms of his will, Dr. Cushman's personal collection of Foraminifera, including numerous type specimens, will come to the Institution.

The paleontological staff has, with the aid of funds from the Walcott bequest, undertaken a wide variety of field work, which has resulted in large and important increments to the Museum's collections—new materials that will form the bases of new contributions to geologic knowledge.

Four parties from the division of invertebrate paleontology were in the field during the year. The first, consisting of Curator G. A. Cooper and Associate Curator A. R. Loeblich, left Washington on July 3, for El Paso, Tex., where they visited the Texas College of Mines to select exchange specimens for the Museum collection. They then proceeded to Silver City, N. Mex., to collect fossils from the Percha formation of debatable Devonian or Mississippian age with the objective of determining the true age relationships of the formation. Next they journeyed to the Glass Mountains north of Marathon, Tex., to collect Permian sponges and other fossils, and thence to Fort Worth, Tex., where they collected Pennsylvanian and Cretaceous fossils for several days. They finished with a few days collecting in Oklahoma.

From August 25 to September 4, Arthur L. Bowsher, geologist, and William Allen, museum aide, collected Devonian, Mississippian, and Pennsylvanian fossils in the Sacramento and San Andres Mountains, N. Mex. They then went west to Hillsboro, N. Mex., to collect Devonian and Mississippian fossils occurring there in great variety and abundance. On September 22 they moved to Silver City, N. Mex., to collect Devonian and Mississippian fossils similar to those of the Hillsboro area and then made an excursion into southeastern Arizona to study the geology and collect fossils from Mississippian strata. They returned to New Mexico to complete their work in the Sacramento Mountains.

A third expedition was made by Curator G. A. Cooper and Dr. Alwyn Williams, visiting Commonwealth Fellow from the British Isles, to examine the excellent Ordovician sequence exposed in the southern Appalachians in Tennessee and Virginia. The party left Washington on October 9 and visited fossil localities near Knoxville, Tenn., Middlesboro, Ky., and several important points in Virginia. The trip ended on October 23 after a study of stratigraphic sequences about Harrisonburg and Strassburg, Va.

Late in September Associate Curator A. R. Loeblich, Jr., met Dr. Ralph W. Inlay, of the U. S. Geological Survey, in Billings, Mont., and spent 12 days collecting foraminiferan samples from the Jurassic in Montana, Wyoming, and South Dakota.

Dr. C. Lewis Gazin, curator of vertebrate paleontology, began his season's collecting in the famous Pipestone Springs locality in southwestern Montana. Aided by Dr. J. LeRoy Kay and his assistant from the Carnegie Museum in Pittsburgh, he obtained an excellent collection, about doubling the Museum's representation of this Chadronian or lower Oligocene mammalian microfauna. The party then moved to the Lower Eocene Knight locality in the northern portion of the Bridger Basin in west-central Wyoming. The geological horizon represented there is the Lost Cabin equivalent of the Wasatchian interval, lying immediately beneath the Green River formation. Particular success was achieved in obtaining articulated skeletal portions with skulls of the rare condylarth *Meniscotherium robustum* and the remains of a variety of other mammals of this age. During May Dr. Gazin made two brief trips to a fissure deposit in western Virginia, about 17 miles south of Franklin, W. Va. The fissure contained abundant material of a variety of Pleistocene vertebrates, principally mammalian, but with some representation of birds and reptiles. Good jaws and complete bones of microfauna were observed, but remains of larger forms, such as horse, bear, tapir, and peccary, were broken up, indicating that the material had been washed in. A total of 10 cartons of fossiliferous matrix was collected. Before the end

of this year Dr. Gazin, accompanied by Franklin Pearce, aide, took an expedition to the Paleocene exposures in the San Juan Basin of New Mexico, and to the lower Eocene deposits in western Wyoming.

Prior to the end of the last fiscal year and continuing into the present, the associate curator of vertebrate paleontology, Dr. D. H. Dunkle, assisted by A. C. Murray of the division's laboratory, conducted an expedition to the marine Upper Cretaceous Pierre exposures in eastern Wyoming and to an area of Green River Eocene deposits in northeastern Utah. During a part of this time he was also assisted by Dr. Bobb Schaeffer of the American Museum of Natural History, who is collaborating with Dr. Dunkle in the study of Green River fossil fishes. The results of this expedition included excellent collections of Cretaceous fossil fishes and marine reptiles, an exhibition slab of an ichthyodectid fish from the Pierre formation, and a highly valuable stratigraphic series of fossil fishes from the Green River beds. Dr. Dunkle also made several trips to various localities in Virginia where Triassic rocks have been discovered to contain fossil fishes. A locality near Haymarket produced excellent impressions of these Upper Triassic fishes; from a second locality, near Warrenton, he obtained actual fish remains, including those of the little-known coelacanth genus *Diplurus*.

The new X-ray crystallographic laboratory was in constant operation throughout the year; more than 250 X-ray diffraction photographs, some of new minerals, were taken.

ACCESSIONS

The department as a whole received 275 accessions totaling 109,499 specimens during the year, in comparison with 281 accessions and 107,332 specimens in 1948. Of the total for 1949, mineralogy and petrology received 108 accessions (827 specimens), invertebrate paleontology and paleobotany 132 accessions (106,217 specimens), and vertebrate paleontology 35 accessions (2,455 specimens).

Mineralogy and petrology.—The general mineral collections continue to grow through gifts and exchanges, with 57 accessions and 588 specimens for the year. Species new to the collections were received as gifts from the following donors: Salesite (copper iodate) from the Chile Exploration Co.; nigerite (oxide of zinc, tin, and aluminum) from the Geological Survey of Nigeria; lombardite (silicate of calcium, iron, and aluminum) from Dr. Hans J. Nel; shortite (carbonate of sodium and calcium) from the U. S. Geological Survey; and rashleighite (phosphate of copper, aluminum, and iron) from Sir Arthur Russell.

The following additional new species were added to the general collections through exchange: Lusakite (cobalt-bearing variety of

staurolite), banalsite (silicate of aluminum and barium), pennantite (manganese-rich chlorite), kalsilite (silicate of potassium and aluminum), braggite (sulphide of platinum, palladium, and nickel), cooperite (sulphide of platinum) and earlandite (hydrated calcium citrate), all from the British Museum; mercallite (potassium bisulphate) from Prof. Guido Carobbi; parahilgardite (hydrous borate and chloride of calcium) from Dr. C. S. Hurlbut, Jr.; barium-muscovite (oellacherite) from Col. John J. Livingston; ishikawaite (tantalo-niobate of uranium), and lemergite (hydrous silicate of sodium and aluminum) from Floyd A. Rapp.

Among the described materials received are the rare calcium silicate afwillite from California, presented by Drs. Edgar H. Bailey and A. O. Woodford; diopside from California, deposited by Dr. George S. Switzer; and brannerite transferred by the U. S. Geological Survey.

Many fine specimens were received as gifts during the past year. The following are unusual: Pyromorphite, Broken Hill, Rhodesia, from Dr. David Gallagher; chlorophoenicite, Franklin, New Jersey, from John S. Albanese; a fine collection of rare copper sulphates in large, exhibition-size specimens from Chuquicamata, Chile, from the Chile Exploration Co.; credite, Colquiri, Bolivia, from Dr. Robert Herzenberg; germanite, Tsumeb, Southwest Africa, and simpsonite, Brazil, from W. O. Vanderberg; and germanite from the Tsumeb Corporation, Ltd.

Received in exchange were: A fine collection of 77 Japanese minerals from Floyd A. Rapp; ludlamite from Grafton, N. H., a new American locality, from M. Z. Kissileff; hanksite, of a rare crystal habit, from Modesto Leonardi; geocronite from Ralph E. MacKay; mimetite and other minerals from Cornwall, England, from John C. Osmond; idocrase crystals from a new American locality, from Elmer B. Rowley; and lazulite, andalusite, and augelite from Prof. C. D. Woodhouse.

Transferred from the U. S. Geological Survey were: A collection of the rare beryllium mineral helvite from Iron Mountain, N. Mex.; a large collection of trona, searlesite, and shortite from the saline deposits of Green River, Wyo.; and tincite from Tintic, Utah.

Special mention should again be made of the continuing efforts of Floyd A. Rapp, of Tokyo, to obtain rare Japanese minerals for our collections.

CANFIELD COLLECTION: Ninety-eight specimens through 23 accessions were added to the Canfield collection. Species new to our collections are: Stibiobismuthinite (sulphide of bismuth and antimony), arsenioardennite (silicate of arsenic, aluminum, and manganese), and a large number of specimens of portlandite (calcium hydroxide). For

this latter accession we are indebted to the special efforts of Eduardo Schmitter and Carl Fries, Jr. Outstanding among the remainder of the specimens are a well-formed, gem-quality golden beryl crystal from Brazil weighing over 1,800 grams, a group of unusual twinned quartz crystals from Japan, a fine crystallized gold specimen from Japan, an unusually large and fine zircon crystal from Australia, a large zincite crystal from Franklin, N. J., and a large exhibition specimen of borax crystals from California.

ROEBLING COLLECTION: Fifty-five specimens in six accessions were added to the Roebling collection. Of particular value is a collection of 40 unusually fine specimens of the rare secondary uranium minerals from Katanga, Belgian Congo, including two species new to the collection: saleeite and epianthinite. Other unusual specimens are a very large and well-formed columbite crystal from Brazil, a handsome group of tourmaline and quartz crystals from Brazil, several fine, large crystallized polybasite specimens from Mexico, and a fine specimen of covellite in very large crystals from Sardinia.

GEMS: Twenty-nine gems were added to the gem collection in 13 accessions. The outstanding new acquisition is a 42-carat stone of the new gemstone brazilianite, the largest yet reported, from Brazil, purchased through the Chamberlain Fund. Other additions to the collection through this fund are two rare danburite gems weighing 7.85 and 3.75 carats from Japan, a 1.1-carat diamond, colored green by irradiation in a cyclotron, a fine orange sapphire, or paparadsha, weighing 15 carats from Ceylon, and a 22.5-carat stone of the new synthetic gem "titania" (rutile) showing extraordinary fire and brilliance.

The following gems were received as gifts during the year: A strand of opal beads, jade pin, jade pendant, and jade bracelet from the estate of Ora Sperry; 11 cut stones and 2 boules of the new synthetic gem rutile from the National Lead Co.; a synthetic star sapphire and synthetic star ruby from the Linde Air Products Co.; radium-treated topaz and sapphire from Nicola G. D'Ascenzo.

METEORITES: The most important specimen added to the meteorite collection is the 8,750-gram individual of the Girgenti, Sicily, stony meteorite, received as a gift from Dr. Stuart H. Perry. Dr. Perry also presented a small specimen of the Smith Center, Kans., stone. W. O. Vanderberg donated a specimen of the Hoba, South Africa, iron, and Floyd A. Rapp gave a small fragment of the Tanokami Mountain iron from Japan. A specimen of the La Lande, N. Mex., meteorite was obtained through exchange with the University of New Mexico, and examples of Tawallah Valley, Narellan, Elsinore, and Moonbi meteorites were received in an exchange with the Aus-

tralian Museum in Sydney, Australia. Twenty tektite specimens from the Philippine Islands were received as a gift from Dr. A. Otley Beyers.

ORES: Two accessions of 30 specimens were added to the ore collection. A suite of 13 miscellaneous Indian ores were received in exchange from the Geological Survey of India. Transferred from the U. S. Geological Survey were 17 iron ores from various localities.

ROCKS: The following gifts of rocks were received during the year: Anorthosite from Prof. T. C. Phemister; sand concretions from Maj. E. D. Taylor; and an unusual sandstone showing picturelike markings and used as an ornamental stone from the Utah Scenic Stone Corp.

Invertebrate paleontology and paleobotany.—Important gifts to this division are: Approximately 500 specimens of gastropods and goniatites from the lower Pennsylvanian and the uppermost Mississippian strata of Arkansas from Roger C. Baker; 750 types and supplementary specimens of Upper Cambrian trilobites from Montana received from Dr. Christina Lochman Balk; 33 paratypes of Tertiary mollusks from California from S. S. Berry; 48 blocks of clay containing Tertiary plants from Guatemala City from Dr. Barnum Brown; 10,000 specimens of assorted invertebrate fossils from A. L. Bowsher, now of the Museum staff; two lots of unusual echinoids from the Lower Cretaceous beds of west Texas deposited by Dr. Earl Ingerson; 7,500 specimens of Middle Ordovician fossils, mostly bryozoans, from O. C. Cole; 20 Tertiary echinoids from Japan from Dr. K. Hatai; 81 Triassic ammonites from Nevada presented by Francis N. Johnston; a handsome specimen of the Cretaceous echinoid *Cidaris hemigranosus* from west Texas from Mrs. L. P. Jones; three type specimens of Pennsylvanian goniatites from Dr. Ralph H. King; 261 type specimens of Foraminifera from the Lower Cretaceous (Walnut formation) of Texas from Mrs. Helen Tappan Loeblich; 50 type specimens from the Ordovician rocks of Pennsylvania and Maryland from Dr. Robert Neuman; 300 specimens of the Cretaceous brachiopod *Kingena* from Dr. David Nicol of the Museum staff; 375 specimens of Tertiary brachiopods from Cuba from the late Dr. R. H. Palmer; 2,150 Pennsylvanian invertebrate fossils from Robert Stark; five type specimens of Foraminifera from Cretaceous and Eocene rocks of Peru from Benton Stone; 300 specimens of Belgian Eocene fossils from Dr. D. C. Riffard; 85 specimens of Welsh brachiopods from Dr. Alwyn Williams.

The following collections of invertebrate fossils were made possible by purchase from Walcott funds or by support of collecting parties by the fund: 40,000 specimens of invertebrate fossils from the

Devonian, Mississippian, and Pennsylvanian rocks in west Texas, New Mexico, and Arizona, collected by Associate Curator A. L. Bowsher and Museum Aide William Allen; 25,000 specimens of Paleozoic fossils from Texas and Oklahoma collected by Curator G. A. Cooper and Associate Curator A. R. Loeblich; 2,500 Middle Ordovician fossils collected by Dr. G. A. Cooper in Tennessee and Virginia; and 2,000 specimens of Permian and Jurassic ammonites and brachiopods from Sicily obtained by purchase.

All but one of the 24 transfers were received from the Interior Department (U. S. Geological Survey); the other transfer came from the Bureau of American Ethnology, River Basin Surveys, through R. B. Cumming, Jr. The most important transfers are: 3,400 specimens including many types of Cretaceous (Woodbine) fossils from Texas, described by Dr. L. W. Stephenson; 1,000 specimens (including types) from Lower Ordovician strata of Texas collected and described by Dr. Preston E. Cloud; about 382 type specimens of conodonts from the Mississippian (Barnett) formation of Texas collected and described by Dr. W. H. Hass; 384 types and figured specimens of Jurassic (Redwater) Foraminifera collected and described by Dr. A. R. Loeblich, Jr., for the Geological Survey.

Of the exchanges the largest is that from the University of Bristol, England, which brought 475 specimens of Paleozoic corals and brachiopods and Mesozoic brachiopods. The Museo de la Plata, Argentina, exchanged 35 specimens of Triassic plants. From Dr. Friedrich Trauth 80 ammonites and brachiopods from Triassic strata of Austria were received. Dr. C. T. Trechman sent a good set of 81 specimens of Permian fossils from England, and Sgt. Philip Cambridge, sent a fine collection of Mesozoic mollusks from Wales. Twenty-one specimens of Ordovician and Silurian graptolites were obtained from Melbourne University, Australia, through Dr. Curt Teichert, and 145 specimens of fine Devonian and Mississippian fossils from New Mexico were obtained from Dr. L. A. Nelson.

Vertebrate paleontology.—Undoubtedly the outstanding acquisition of the year in this division was the nearly complete skeleton of the Triassic phytosaur *Machaeroprotopus gregorii* Camp, from the Chinle formation near St. Johns, Ariz., collected and transferred to the National Museum by the U. S. Geological Survey. Fragmentary phytosaur remains are not uncommon in the Triassic of the Southwest, but exhibit-worthy skeletons do not number more than two or three in the entire country.

Perhaps second in importance is the articulated skeletal portions including skulls of three individuals of the condylarth *Meniscotherium robustum*, a gift from the Walcott Fund and secured by the curator's

field party from the lower Eocene Knight beds of southwestern Wyoming. These are particularly important in demonstrating the foot structure and vertebral formula in this group of mammals.

Of much interest is the complete skeleton of the large ichthyodectid fish, also from the Walcott Fund, which the associate curator's party obtained from the Upper Cretaceous Pierre formation of eastern Wyoming. The associate curator, Dr. D. H. Dunkle, moreover, brought to the National Museum a personal collection of four fishes from the Upper Cretaceous Niobrara formation of Kansas, most notable of which is a skull of the rare *Protosphyraena*.

Outstanding gifts from private individuals include a partial, articulated skeleton of one of the oldest known amphibians, from the Mississippian rocks of West Virginia, collected by Leigh R. Collins; three specimens of the Devonian arthrodiran fish *Eudinichthys terrilli*, collected by the late Peter A. Bungart and donated to the National Museum by Mrs. Bungart; a partial, articulated skeleton of the Pleistocene jaguar *Panthera augusta*, discovered in a Tennessee cave and given to the Museum by Edward McCrady; the greater part of a skull of the Pleistocene walrus *Odobenus virginianus*, dredged from about 20 fathoms off the coast of North Carolina and brought to the Museum by C. W. Morris. A particularly significant addition to the representation of the Miocene fauna from the Calvert formation in Maryland is a portion of a tapir skull, possibly *Miotapirus*, discovered by J. E. Smedley, near Chesapeake Beach, the first skull portion, except for a few isolated teeth, to have come from the middle Miocene of North America.

Significant transfers from the U. S. Geological Survey, in addition to the above-mentioned phytosaur, include a large and unusual representation of the strange shark *Helicoprion* from the Permian Phosphoria beds of Idaho, secured for the Museum by Dr. James S. Williams, and a second specimen from the same beds in Utah, collected by Dr. Marcus I. Goldman. Transfer was also made of a particularly good representation of *Hipparion* and *Nannippus* materials from the Bone Valley Pliocene beds of Florida, collected by F. Stearns MacNeil.

The Smithsonian River Basin Surveys transferred two important collections, including representation of some new species from: (1) the Wind River Eocene beds of the Boysen Reservoir area in Wyoming, and (2) the Oligocene beds in the Canyon Ferry Reservoir area near Helena, Montana. These were collected by Dr. T. E. White, E. L. Lundelius, and J. C. Donohoe.

Distribution and exchange of specimens.—Materials distributed for educational, scientific study, or other purposes consisted of 60 gifts totaling 1,404 specimens; 58 loans with 3,805 specimens; 56 ex-

changes totaling 2,982 specimens; and 8 transfers of 626 specimens to other Government agencies.

Number of specimens under the department.—The total number of specimens now in the department's collections is 3,157,247, distributed as follows:

Mineralogy and petrology.....	259, 919
Invertebrate paleontology and paleobotany.....	2, 863, 412
Vertebrate paleontology.....	33, 916
Total.....	3, 157, 247

INSTALLATION AND PRESERVATION OF COLLECTIONS

In order to convert the old "building stone hall" into office space, it was necessary to dismantle and condense the exhibits relating to nonmetallic minerals stored in the hall. Large specimens suitable for exhibition have been reserved for display in the present exhibition space in the ore hall, other materials have been incorporated in the study series, while the remainder, consisting of duplicate material, examples of brick, and similar inappropriate materials, are held for condemnation procedure.

James H. Benn continued the catalog of mineral localities represented in the collections, while Miss Theresa Blumenthal maintained the card index of new mineral names—a file very useful for acquiring new species for the collections. Frank E. Holden has completed the following preparations in the lapidary shop: 47 cut, polished, and etched slices of meteorites; 178 cut and polished slabs of rocks and ores; 159 thin sections of rocks and minerals for scientific examinations; and 481 individual plaster bases for exhibition specimens of minerals. Miss Jessie G. Beach, aide, has continued the hand printing of exhibition labels. Her work on the sorting, numbering, and otherwise preparing of large lots of Bryozoa and associated organisms in the collection of washings and dredgings has continued.

Dr. David Nicol, associate curator, began a rearrangement of the Tertiary invertebrate study collections according to geographic provenience. In addition, 60 drawers of duplicate materials were cleaned and arranged. William Allen, museum aide, undertook the difficult task of organizing the cephalopod collections, with the types arranged alphabetically at the end of the regular series. He also assisted the staff by preparing thin sections of fossils, sorting and picking collections, and assisting in the time-consuming task of photographing specimens. All members of the scientific staff of the division of invertebrate paleontology and paleobotany spent a large percentage of their time at identifying, labeling, and distributing choice specimens in the biological collections. Dr. Cooper identified all the Percha

shale material from New Mexico, amounting to many hundreds of specimens, collected in 1948. Dr. Loeblich identified many hundreds of Foraminifera and Bryozoa.

Cataloging.—In the division of mineralogy and petrology and the division of vertebrate paleontology all specimens, except a small backlog of current material, have been cataloged, numbered, and distributed. In the division of invertebrate paleontology and paleobotany, because of the great number of individual specimens received, and the huge backlog of accumulated material, much still remains to be cataloged. With the appointment of Miss LaVerna Pendleton as cataloger in this division, progress has been made in entering the most urgent items. Besides a total of 3,240 entries recorded, Miss Pendleton has marked as types and numbered about 15,000 specimens.

Exhibition.—The 14 cases containing the American systematic mineral collection have now been lined with a neutral-toned cloth, the old black base blocks removed, and the number of specimens displayed reduced by Mr. Benn. In order to eliminate the unsightly wire supports for some of the specimens, Mr. Holden has prepared 481 individual plaster bases, colored to blend with the matrix of the specimens. The result is a greatly improved display. A new exhibit case showing a choice selection of uranium minerals from the Belgian Congo was introduced as a special exhibit.

In vertebrate paleontology, laboratory work continued on the preparation of the exhibit slab of *Buettneria* skulls and should be completed during the fall of the coming year. A complete skeleton of a large ichthyodectid fish from the Upper Cretaceous of Wyoming is being prepared in a manner suitable for exhibition; and a beginning has been made in the preparation for exhibition of a nearly complete phytosaur skeleton which the U. S. Geological Survey collected from the Chinle formation in Arizona.

INVESTIGATION AND RESEARCH

Mineralogy and petrology.—The curator, Dr. W. F. Foshag, continued his studies on the geochemistry of Parícutin Volcano. Unexpected changes in the chemical composition of the later lavas have unusual significance relating to the nature of magma reservoirs. The study of the fumarolic products indicates that several new mineral species are present in the sublimes. E. P. Henderson, associate curator, continued his investigations on the chemical composition of the iron meteorites, and Dr. Stuart Perry, associate in mineralogy, collaborated in this project by supplying the metallographic data. Dr. George Switzer, associate curator, completed studies on the rare and imperfectly known species veatchite (strontium borate), mosesite (complex oxychloride-sulphate of mercury), and afwillite (hydrous

calcium silicate). A study of the mineralogy of the Golconda, Brazil, pegmatite is nearing completion. Much of his time was occupied in preparing X-ray diffraction photographs of minerals, the completed file to serve as a standard reference series for the study and determination of mineral species. Late in the year he left Washington on detail to study the mineralogy and geochemistry of "The Geysers" in California, an unusual occurrence of sulphate minerals and a potential source of natural steam power. Dr. John P. Marble, associate in mineralogy, completed the analyses of allanite from Massachusetts and two uraninites from Brazil for the determination of their absolute ages. In addition, he prepared a sample of pure pitchblende to serve as a standard of thorium-free radioactive mineral. He continued his annual comprehensive bibliography of naturally occurring radioactive minerals and of geological time for the Committee on the Measurement of Geological Time, of the National Research Council, of which he is chairman.

Invertebrate paleontology and paleobotany.—Curator G. A. Cooper finished the legends for the 248 plates to illustrate his monograph on "Chazyan and related brachiopods." The completion of specific descriptions remains to conclude this project. The Permian of the Glass Mountain program is still in the accumulation-of-materials stage and will remain so for another two or three years.

Because of lack of equipment, Dr. Alfred R. Loeblich, Jr., was unable to make any substantial progress on his study of Upper Devonian (Percha) Bryozoa, one of the specific projects of the research program. He made substantial progress in other directions, however. About 250 samples of Jurassic Foraminifera from Montana, Wyoming, and South Dakota were washed and picked. A paper entitled "North American Jurassic Foraminifera, I: The Type Redwater Shale (Oxfordian) of South Dakota" was prepared on some of this material by Dr. Loeblich and Helen Tappan Loeblich. The second part of this study, "Characteristic Callovian Foraminifera of the Western Interior," is nearing completion under the same authorship. In addition, he is continuing his studies of Cretaceous Foraminifera by sorting many samples and assembling faunal slides. The next year should see the completion of this study. In addition to his work on Foraminifera, Dr. Loeblich prepared several hundred thin sections of upper Paleozoic rhomboporoid bryozoans to be described in collaboration with Dr. Helen Duncan. During the year Permian sponges continued to accumulate for Dr. Loeblich's part in the Permian research program. Most of this material has now been assembled and roughly classified.

Associate Curator A. L. Bowsher continued his studies of the crinoid family Actinocrinidae. Most of the illustrations are prepared and the first draft of the manuscript is ready. He also reports progress

in his studies of the Mississippian stratigraphy and fossils of New Mexico and surrounding country. All his collections made in the fall field trip have been cleaned and organized.

Associate Curator David Nicol finished a study of the "Origin of the Pelecypod Family Glycymeridae," which is soon to be published. He is now working on a monograph of the Recent species of the genus *Corbis*, their distribution, and their relationship to those collected around Bikini Atoll.

Research Associate J. Brookes Knight devoted his time to the study of the Permian gastropods of Texas and New Mexico, concentrating on those of Wolfcampian age. Even though still in its preliminary stages, this study has proved its practical value in correlating Wolfcampian beds in economically important areas as far apart as central Texas and Arizona. The collections have been sorted and representative specimens photographed so that the preparation of manuscript, commenced about a year ago on the basis of only the small part of the collection then available, will be resumed at once. The revision of the major taxonomic categories in the phylum Gastropoda, a project announced before, has been held in abeyance pending clarification of some puzzling problems.

Upon retirement as head curator of geology on August 1, 1948, Dr. Bassler continued research work under an appointment by the Secretary as honorary associate in paleontology. With an office in the Springer room, Dr. Bassler proceeded with his studies on this famous echinoderm collection as in the past and practically completed a monograph on Ordovician cystids. Later in the year, when the "Treatise on Invertebrate Paleontology" was sponsored by the Geological Society of America and associated organizations, the preparation of the volume on Bryozoa was assigned to Dr. Bassler, a study that will entail a revision of the Museum's entire bryozoan collection. Illustrations and manuscript for several hundred genera have already been completed.

Vertebrate paleontology.—Curator C. L. Gazin devoted his time to the general study or monographing of the mammalian order Tillodontia. The illustrations for this study are being prepared by the division artist, W. D. Crockett, and are well on their way toward completion. This is part of the curator's general project of reviewing the middle Eocene Bridger fauna. In addition to this, a short review was made of the geologic history of the leptictid insectivores and a new form belonging to this group was described from the Bridger beds.

Associate Curator D. H. Dunkle continued his studies of the Green River Eocene fishes from Wyoming and Utah in collaboration with Dr. Bobb Schaeffer of the American Museum of Natural History.

These two have also completed a joint study of a small collection of Permian fishes from Brazil and of a new Triassic fish from Utah. Dr. Dunkle has been preparing serial sections of a leptolepid fish from the Jurassic of Cuba, in preparation for a detailed study of the skull morphology of this group of fishes, and has given a part of his time to collections of Triassic fishes secured from nearby localities in Virginia.

Research by outside investigators.—Forty lots of minerals or meteorites were sent out to scientific investigators as aid to their researches.

Dr. Byron N. Cooper, Virginia Polytechnic Institute, completed his monograph on Ordovician trilobites of the Southern Appalachians. This work was started in the fall of 1945 when Dr. Cooper worked at the Museum. Dr. T. W. Amsden, Johns Hopkins University, completed a study of Silurian (Henryhouse) brachiopods from Oklahoma, collected by A. R. Loeblich, Jr., and G. A. Cooper. Dr. Franco Rasetti of the same university studied Upper Cambrian trilobites on several occasions. In September 1948 Dr. Alwyn Williams, Commonwealth Fellow from the University of Aberystwyth, Wales, and the University of Cambridge, England, arrived to take up special studies on brachiopods. He has completed his study of the Stropheodontidae and is now working on Middle Ordovician brachiopods. Ing. Alberto Arelano, of the Instituto de Geología, Mexico, spent two and one-half months at the Museum completing his contribution to the "Geology of the Region around Caborca." This study is to be published in collaboration with Curator G. A. Cooper. Dr. T. K. Huang, chief geologist of the Geological Survey of China, spent about three weeks in Washington. While here he studied Ordovician and Permian brachiopods at the Museum. Dr. Benton Stone, International Petroleum Co., Negritos, Peru, studied Foraminifera at the Museum. Dr. T. Chien Yen has been studying fossil fresh-water Mollusca at the Museum since December 1948 for the Office of Naval Research. He has prepared several papers on these collections. Dr. T. E. White, of the Smithsonian River Basin Surveys, made extensive use of the collections of the division of vertebrate paleontology in his study of the lower Eocene vertebrate fossils collected in the Boysen Reservoir area of the Wind River Basin, Wyoming, and of the Oligocene materials from the Canyon Ferry Reservoir area in Montana. Dr. Jean R. Hough, working on a grant from the Geological Society of America, spent a good part of the year on her study of White River Oligocene carnivores in the Museum collections and completed a review of the saber-toothed genus *Hoplophoneus*.

DEPARTMENT OF ENGINEERING AND INDUSTRIES

(FRANK A. TAYLOR, *Head Curator*)

DEFINITE progress was made in the department of engineering and industries during the fiscal year 1949 in all elements of the work. Noteworthy accessions were made in all sections, improvement in the condition of reference collections was accomplished in most, and the organized effort applied to research began to produce results. Jacob Kainen, curator of graphic arts, completed his study of George Clymer and the Columbian printing press, and S. H. Oliver, associate curator, division of engineering, finished the manuscript for a descriptive catalog of the automobile and motorcycle collection.

The departmental storage court was partially equipped with cases and lockers which permitted the start of well-organized and accessible reference storage of the fiber collection of the section of textiles and the collections of instruments and electronic tubes of the section of electricity.

Backlogs of cataloging were eliminated in the division of medicine and public health, and a generic file was prepared in the section of wood technology where family and common-name indexes also were brought up to date, requiring a total of 13,628 newly typed cards.

In exhibition, the greatest improvement was made in the division of crafts and industries, where the hall of early American textiles was rigorously worked over, and three exhibits of old leatherworking crafts, in shoplike arrangement, were created. Monthly exhibitions of the work of contemporary fine printmakers and photographers and the annual Photography-in-Science Competition (in cooperation with the *Scientific Monthly*) were continued. The division of medicine and public health presented the "Treatment" exhibit of the National Foundation for Infantile Paralysis, Inc., and the division of engineering showed the Robert H. Goddard rocket exhibit of the Daniel and Florence Guggenheim Foundation.

Services rendered to inquirers including consultations, help in the use of the collections, and identification of specimens were up in volume to about one-fifth of the working hours of the professional staff.

ACCESSIONS

Accessions for the year total 128, or 15 less than last year. The number of specimens is 2,610, which is greatly less than last year, be-

cause of the abnormally large number acquired then in the Chaney collection of railroad material. The break-down of the year's accessions is as follows: Crafts and industries 23 (314 specimens); engineering 34 (232 specimens); graphic arts 62 (2,026 specimens); and medicine and public health 9 (38 specimens). Of these the following are noteworthy:

Crafts and industries.—The section of textiles acquired a unique cotton patchwork quilt made entirely of 1876 Centennial fabrics, presented by Mrs. C. A. Rich, whose father collected the pieces while a merchant in the dry-goods wholesale trade in New York. Many of the fabrics represented had previously been thought to date much earlier. From the French Gratitude Train, through the District of Columbia French Gratitude Train Committee, 101 specimens were received, 96 of them showing examples of Jacquard weaving.

The finest addition of the year in the section of wood technology comprises 100 specimens and 9 photographs illustrating the production and utilization of cork bark and its products, together with a cherrywood case complete with lighting facilities. The exhibit was arranged and presented by the Cork Institute of America.

Engineering.—The outstanding accession of the year in engineering is the collection of electrical measuring instruments, early lamps, and electronic tubes presented by the Weston Electrical Instrument Corp. The instruments are a part of those assembled for study by the Weston Corporation from European and domestic sources beginning in the 1880's. Another important accession, also in the section of electricity, is the exhibit prepared for the National Museum by the U. S. Army Signal Corps Laboratories on the subject of radar and microwave radio relay communication.

Land transportation received a Columbia, high-wheel bicycle of 1887, restored and presented by Albert E. Schaaf. Mr. Schaaf, who was associated with the early bicycle industry, has made several accurate restorations of early bicycles with the purpose of preserving a true record of their fine craftsmanship and finish.

The watercraft collection received a set of 19 blueprints of drawings of Northwest coast fishing vessels designed by Harold Lee, late in the 1890's and early in the 1900's. These were received from Mr. Lee through the efforts of William Garden, marine architect, who presented in addition seven blueprints and tracings of Pacific coast watercraft from several sources.

Original rockets and rocket applications made by Dr. Robert H. Goddard, whose early experimental work was supported in part by the Smithsonian Institution, were accessioned temporarily as a loan exhibit from the Daniel and Florence Guggenheim Foundation.

Graphic arts.—During the year the division of graphic arts received 62 accessions, of which 29 with a total of 540 specimens were in graphic arts and 33 with a total of 1,486 specimens in photography.

Among the noteworthy accessions were prints purchased through the Dahlgreen Fund. These include a soft-ground etching, "Temoins à l'Audience," by Jean Louis Forain, and a cellocut by Boris Margy. Serigraphs include "Auto-motif" by Anthony Velonis, who revived serigraphy as a fine printmaking process; "Old New Harbor, Maine," by Frederick Detwiller; and "Snowfall," printed in 30 colors, by Jacob Kainen, the latter two prints presented by the artists. The National Serigraph Society presented an exhibit on the methods of serigraphy. Mrs. Helen West Heller presented eight examples of her wood-engraving.

Other contemporary artists represented by prints received during the year are Joseph C. Claghorn (deceased), Prentiss Taylor, Rudi Lesser, Ruel P. Tolman, and John Taylor Arms. Charles Dahlgreen presented the important etchings "Self Portrait" and "Baigneuse" by Anders Zorn and "Promenade du Dimanche" by Auguste Lepère.

In photography, the most interesting accession is the Marcy Sciopicon Magic Lantern, a kerosene lamp projector, patented 1868-69, presented by Frank B. Kaye. A Premo "A" stereoscopic camera was presented by A. E. McMechan. The prize-winning print in the monochrome division, First International Photography-in-Science Competition, by Dr. Edwin R. Willis, was accessioned.

Medicine and public health.—In the division of medicine and public health the principal accession is a group of electric hearing aids arranged in an exhibit prepared and presented by Telex, Inc., which illustrates the development of hearing aids. The Rexall Drug Co. presented an example of the newly developed petechiometer for determining capillary fragility.

Distribution and exchange of specimens.—Sixteen specimens, not resulting in deductions, were distributed by the division of crafts and industries, as follows: 3 woods to Harvard University Biological Laboratories; 6 specimens from manufacturers and 2 from textiles sent to National Security Resources Board; 5 woods lent to Export-Import Bank of Washington (returned). The division of engineering continued to lend sets of photographs to school teachers, and the total number of photographs processed by the division for loans, gifts, transfers, and pay orders was 846. One hundred and forty-eight prints of the drawings produced by the Historic American Merchant Marine Survey were ordered. These are supplied by a local blueprinter at nominal cost to the purchaser from paper negatives lent by the divi-

sion. The total of prints furnished to date is 5,650. A group of nine patent models was lent to the United States Patent Office.

Number of specimens under the department.—At the end of the year the total number of specimens in the department of engineering and industries was as follows:

Crafts and industries.....	60, 975
Engineering	32, 181
Graphic arts.....	49, 096
Medicine and public health.....	22, 838
<hr/>	
Total	165, 090

INSTALLATION AND PRESERVATION OF COLLECTIONS

During the year an exchange of storage space between textiles and agricultural industries was effected. All the sewing-machine patent models were moved from room 110 on the south gallery, cleaned, and placed in chronological order on steel shelves in the south-hall textile storage. The 861 agricultural patent models were placed on shelves in room 112, south tower. This exchange necessitated changes on 1,722 catalog cards, but it makes all the specimens more readily available to the staffs of the sections concerned. In manufactures, 179 storage units were cleaned and fumigated with DDT. Approximately 300 cubic feet of useless material was discarded. A large quantity of specimens relating to the mineral industries was removed from the southwest court and stored in the southwest basement.

The installation of 14 units of steel shelving in the storage court permitted the start of an improved and permanent storage arrangement for the section of electricity. This operation was delayed somewhat by the use of the space for sorting surplus material received from the U. S. Army Signal Corps, some of which will become a part of the collections when accessioned next year. The storing of all the typewriters, except the few retained in the exhibits described in the last report, was completed. These are now conveniently available for study and are adequately protected. One of the basement storage rooms of the northeast pavilion was cleared, cleaned, and refloored with concrete. This is the last of these rooms requiring renovation. When it is painted and equipped with storage equipment the entire basement space will be useful and presentable.

About 65 mats were cut to preserve prints in graphic arts. An acute shortage of matboard limited the activity in this connection. The most valuable prints were added to the solander cases in which the finest small prints are preserved. Many leather-covered specimens in photography were treated to prevent deterioration, and a number

of important prints were framed under glass. Two half-unit storage cases were received and some of the largest and most important specimens were placed there for proper storage.

The specimens in the division of medicine and public health were examined carefully during the year and protective measures were taken where needed. The collections are in a good state of preservation. Four specimens in the medicinal forms exhibit and 26 specimens in the Lederle biological collection, deteriorated by age, were replaced by the donors.

Cataloging.—Most of the material received by the divisions during the year was cataloged as received.

In the section of textiles, 181 specimens were cataloged, of which 16 were backlog. In manufactures 250 specimens were processed, all backlog. In wood technology, current cataloging and work on the backlog were both halted in order to prepare an increasingly necessary generic file and to bring the family and common name indexes up to date. For two of these sets, Mrs. Lottie A. Dickson, clerk-stenographer, typed 13,628 cards. Many of them bore common names which, if unrepresented, required additional cards for the section's glossary.

In the division of engineering, cataloging of new accessions was kept up to date. The checking and authentication of the catalog records of the automobiles and the electrical measuring instruments were carried on by the associate curators in the course of their work on descriptive catalogs of the collections. Much remains to be accomplished in checking and documenting the information contained in the bulk of the old catalog records of the division.

In graphic arts, the cataloging of new specimens was accomplished currently, the cataloging of the section library of photography was completed, and the inventory of specimens in both sections was continued slowly. The reorganization of the photographic file of the section of graphic arts was carried forward.

In medicine and public health, a 2-year backlog in cataloging of new specimens was eliminated, and the section library catalog was brought up to date.

Exhibition.—Further consideration was given during the year to a planned program for modernization of the exhibits of this department.

In the section of manufactures, three leatherworking shops, designed by Fred C. Reed, associate curator, were erected and installed by the division preparators with the aid of the service shops. These attractive exhibits representing a currier's shop of 1884, a shoemaker's shop of 1850, and a harnessmaker's shop of 1900, are practically complete. Grace L. Rogers, assistant curator, section of textiles, made a

complete rearrangement of the hall of early American textiles, involving the renovation of 23 cases and the elimination of 18. This required thoughtful consideration of the material and its disposition.

The associate curators of engineering directed the preparators in the preparation of four single-case exhibits. They are on the subjects of the Vanderbilt Cup Races, the Franklin automobile, and Edison incandescent lamps. The preparators, William H. Dunn, Jr., and J. Harry Phillips, Jr., and the skilled laborer, John C. Carter, erected the special exhibit of the rocket developments of Dr. Robert H. Goddard. This exhibit was shown with good results for three months. The installation of a radar and radio relay exhibit prepared by the U. S. Army Signal Corps Laboratories adds a bright, effective, and instructive presentation of these modern subjects. It is the first unit in the plan for enclosing the west south gallery within fixtures extending upward to a ceiling at girder height.

An exhibit devoted to the art and technique of serigraphy was installed in the section of graphic arts through the cooperation of the National Serigraph Society. The section of photography installed an exhibit of color photographs by the dye process and the Printon process. The exhibition of the Second Annual Photography-in-Science Competition, in cooperation with the *Scientific Monthly*, was held in the foyer of the Natural History Building as was the First All-Service Photography Competition cosponsored by the military services. The demand for showings of the Photography-in-Science Competition was so great that a second edition was printed and the 2 units are now on tour to 22 institutions in the United States and to London and The Hague. The traditional monthly exhibits of contemporary work in graphic arts and photography were held as follows:

Graphic Arts

June 21-Aug. 1...	R. P. Tolman.....	31 etchings and drypoints.
Aug. 2-Sept. 6...	Artists' Guild of Washington..	45 prints and drawings.
Sept. 7-Oct. 3....	Prentiss Taylor.....	39 lithographs.
Oct. 4-Oct. 31....	Boris Margo.....	27 cellocuts.
Nov. 1-Nov. 28..	Dox Thrash.....	53 carbographs.
Nov. 29-Jan. 2...	Adja Yunkers.....	17 woodcuts.
Jan. 3-Jan. 30...	Irving Amen.....	32 woodcuts.
Jan. 31-Feb. 27..	Leslie Cope.....	44 etchings.
Feb. 28-Mar. 27..	Minna Citron.....	39 various prints.
Mar. 28-Apr. 24..	Helen West Heller.....	35 wood engravings.
Apr. 25-May 22..	Minnie L. Raul.....	59 drypoints.
May 23-June 19..	Lynd Ward.....	30 wood engravings.
June 19-Sept. 5..	Prints acquired through Dahl- green Fund and prints by Dahlgreen.	29 prints.

Photography

July 1948....	Telephone Camera Club of Manhattan.	60 pictorial photographs (14th Bell System Traveling Salon).
Aug. 1948---	Metropolitan Camera Club.	89 pictorial photographs (12th Annual Traveling Salon of Metropolitan Camera Club Council).
Sept. 1948---	Smithsonian Institution and the <i>Scientific Monthly</i> .	282 scientific photographs (2d International Photography-in-Science Competition).
Sept. 1948---	Mrs. Jean Elwell.....	60 pictorial photographs.
Oct. 1948....	Charles Eliot Perkins..	68 color photographs.
Nov. 1948---	Frank E. Fuller.....	55 pictorial photographs.
Dec. 1948....	Dominic Chiesa.....	40 pictorial photographs.
Jan. 1949....	AnSCO Division, General Aniline & Film Corp.	40 color photographs.
Feb. 1949....	Natural History Society of Maryland.	64 photographs (1st Maryland Salon of Natural Science Photography).
Mar. 1949---	Departments of the Army, the Navy, and the Air Force.	480 pictorial photographs (1st All-Service Photography Contest).
Mar. 1949---	Harvey Belgin.....	77 pictorial photographs.
Apr. 1949....	Herbert D. Ohm.....	60 pictorial photographs.
May 1949---	The National Speleological Society.	48 prints (2d Annual Salon of the National Speleological Society).

An exhibit showing the development of hearing aids was prepared and presented by Telex, Inc., at the request of the associate curator of the division of medicine and public health. The "Treatment" exhibit of the National Foundation for Infantile Paralysis, Inc., illustrating the treatment of poliomyelitis, was shown for about six weeks.

INVESTIGATION AND RESEARCH

Most of the available research time of W. N. Watkins, curator of crafts and industries, was spent in assisting outside investigators to trace and identify the numerous foreign hardwoods that have been offered to the American trade since the war. A number of woods with similar appearance and properties have been confused in the trade with no intent to deceive, but some dealers have imported woods more or less commonly known before the war, coined new names, and sold them at advanced prices. The section's goal is the same in either case—to encourage accurate representation of woods for the protection of the public. The examination and classifying of woods in the collection is a continuing process and a number have been classified and several reclassified this year.

Miss Grace L. Rogers, assistant curator of textiles, has undertaken as a research project "The Care and Preservation of Textile Specimens." A preliminary study has been made to review the work done

in this connection by other museums. Contacts have been made by letters and personal visits. Twenty-five museums in the United States and three abroad have been contacted to learn their methods of storing and caring for their textiles. A bibliography of pertinent material is being compiled. This study will be valuable to the Museum and others seeking the best method of preservation of historic and valuable textile fabrics.

In addition to the research incident to normal operations, Fred C. Reed, associate curator of manufactures, began investigation in the history of the farm tractor. So far, work has been limited to the years 1916 and 1917. Descriptions have been written of 173 different tractors manufactured during this time by 129 manufacturers. The scope of the project requires a photograph and description of every American farm tractor with its history and development.

S. H. Oliver, associate curator of the division of engineering, completed the manuscript of one unit of the descriptive catalog of the land transportation collections. This work describes the automobiles with a brief history of each and includes a summary of the development of the automobile. Mr. Oliver is continuing work on a similar unit relating to the bicycles. Kenneth M. Perry, associate curator, made progress in organizing the collections of electrical measuring instruments preparatory to describing them.

The curator of graphic arts, Jacob Kainen, completed his study of George Clymer and the Columbian hand press, invented in 1813. This represents several years of library research and correspondence on an interesting American invention which, because it was developed commercially abroad, is not well known in the United States. The manuscript has gone to the printer.

The associate curator of medicine and public health, George S. Thomas, continued his library research on the subject of the history of the microscopical identification of powdered drugs. This is preparatory to his study of the merits of the several key systems employed in the identification of drugs.

Many outside investigators examined and studied the collections, and most of them were assisted by members of the staff in furthering their work. Only a few can be mentioned.

Clarence Hornung sought aid in assembling material for a publication similar to Butterworth's "History of Industrial Art." He was especially interested in the Slater spinning frame, cotton gin, and sewing machines. Winslow L. Gooch, forestry consultant, studied the literature and collections on durable woods suitable for piling and decking. H. V. Bailey has repeatedly studied the wood collection in connection with foreign woods being imported into this country. Dr. W. W. Varossieau, wood anatomist, Delft, Netherlands, studied woods and the card-index system and arranged for future exchanges.

Woods for study were sent to Harvard University Biological Laboratories, and Export-Import Bank of Washington. Textile fibers, vegetable oils, crude rubber, and lac resins were sent to the National Security Resources Board.

Norman Speiden, curator of the Edison Foundation, examined phonographs in the collection in connection with the preparation of the Foundation's book on Edison and the phonograph. Admiral W. Mack Angas, U. S. N., made several detailed examinations of the original logbook of the S. S. *Savannah*, the first steam vessel to cross the Atlantic, in connection with his continuing research in early steam navigation. Dr. Charles Lyon Chandler, Ursinus College, obtained answers to a number of inquiries relating to the history of invention and used the engineering library to advantage. Commander George M. Cunha, U. S. N., found the fine contemporary model of the Block Island boat in the watercraft collection to be a real source of information on details of the type in connection with a study which he has undertaken with Paule Loring. Mrs. Jeannette Mirsky obtained advice on the significance and content of a group of original drawings of tools attributed to Eli Whitney, which she had acquired in the course of her study of Whitney's life and work. Paul Warner, long-time editor of publications of the Baldwin Locomotive Works, with two other gentlemen from that firm, spent a day examining the Chaney collection of railroad historical material.

Dr. Lawrence Martin studied the Washington hand press in considerable detail in order to obtain thorough information on the operation of this press. Dr. Martin is writing a historical novel in which the central character is an itinerant printer. Raymond Evans, who is preparing a volume on the golden era of American wood engraving (1870-1890), spent three days in the division of graphic arts examining the large collection of wood engravings of the period. The National Serigraph Society, which presented the division with the material for a technical display of serigraphy, requested the division to prepare copies of its labels for this exhibit, as well as the plan of arrangement, to assist them in planning a similar display. Miss Marilyn Downes and Miss Laureil Garlette, who are studying etching and other graphic art processes, studied the engraver's hand press and examined various types of plates in the collection. Harold S. Sniffen, curator of the Mariners Museum, visited the division to study its display of graphic-art processes in connection with an exhibit he is preparing for his museum. Mr. Sniffen borrowed 11 examples of plates, tools, and prints to help round out his technical display.

Outside investigators who made use of the resources of the section of photography included J. Monaghan, of the Illinois State Historical Society, and Edward Steichen, of the Museum of Modern Art.

DEPARTMENT OF HISTORY

(CHARLES CAREY, *Acting Head Curator*)

THE past year in the department of history has been a very active one. On August 16, 1948, the division of history was elevated to a full department consisting of five divisions: Civil history, military history, naval history, numismatics, and philately. Miss Margaret W. Brown was appointed acting curator of civil history, Mendel L. Peterson acting curator of military and naval history, Stuart M. Mosher acting curator of numismatics, Mrs. Catherine L. Manning acting curator of philately, and Charles Carey acting head curator of the department.

Other changes in the staff were as follows: Stuart M. Mosher was appointed numismatist; James R. Sirlouis, former scientific aide, was promoted to assistant curator; Miss Lucy H. Rowland, clerk-stenographer, was appointed to succeed Miss Rose M. Blazek, resigned; and later Mrs. Margaret L. Henderson to succeed Miss Rowland, transferred to the division of archeology; and Craddock R. Goins, Jr., was made scientific aide to succeed Wilbur H. Chapman, retired.

ACCESSIONS

Accessions for the year totaled 53 lots comprising 11,104 specimens. Though this number is a decrease from the 79,337 specimens received in 1947-48, which included the large collection of paper money and postage stamps of the late Victor H. Huberich, it is an increase over the 3,000 specimens averaged in the five years prior to 1948. The accessions were allocated to the several divisions as follows: Civil history 14 (61 specimens); military history 12 (490 specimens); naval history 4 (690 specimens); numismatics 14 (6,930 specimens); philately 9 (2,933 specimens).

Civil history.—The collection of American antiques and personal relics was enriched by a spirit set and silverware presented by Mrs. John E. Reynolds that once belonged to Andrew Ellicott (1754-1820), of Maryland, a prominent surveyor and mathematician. He was employed by the Government to survey and lay out the city of Washington in 1790 and was made surveyor general of the United States in 1792.

Capt. George Van Deurs, U. S. N., presented a small wooden inkwell that was used by Abraham Lincoln during his presidential adminis-

tration. In 1874 the inkwell was presented by Elizabeth Keckley, personal maid and seamstress for Mrs. Lincoln at the White House, to her pastor, the Rev. George Van Deurs.

Part of a complex loan received from President Truman was assigned to the division of civil history. The specimen is a marble slab from the Temple of Wingless Victory on the Athens Acropolis, presented to Mr. Truman by a Greek delegation on March 28, 1949, as a token of gratitude from the people of Greece for the support the people of the United States have given their country. It was presented on the occasion of the celebration in Greece of the Great Liberation Anniversary. The slab is engraved with an inscription in ancient style referring to President Truman's friendship toward Greece.

The most interesting dresses received this year for the costumes collection were a green plaid taffeta dress, period 1850-1860, from Miss Mary E. McConnel; and some 1919, 1920, and 1924 dresses from Mrs. John H. Murray. Mrs. Harry G. Meem presented two dresses of the period 1925-1930. The twentieth-century dresses received are important because the Museum collection did not contain any specimens of this period of costume.

In the collections of miscellaneous costumes noteworthy items are a parasol made of pheasant feathers, presented by Mrs. H. T. Cocke, and a bonnet of the type known as a "calash," popular from 1770 to the middle of the nineteenth century, received from Mrs. H. R. Hosea.

Military and naval history.—The outstanding addition to the military collection was a collection of relics of John J. Pershing bequeathed to the Museum by General Pershing. It comprises the uniforms worn by General Pershing from the time he was a cadet at the Military Academy until the coronation of King George VI of England, as well as presentation flags, medals, decorations, and other personal mementos of his military service. In addition, an extensive collection of artistic and commemorative medals was lent to the Museum by Warren Pershing, General Pershing's son.

The collection of military art was enriched by a group of 44 portraits of World War II heroes painted by Joseph Cummings Chase and presented by him. This collection includes portraits of Gen. George C. Marshall, Gen. Dwight Eisenhower, Gen. Henry H. Arnold, Gen. Douglas MacArthur, Gen. Mark Clark, Gen. Omar N. Bradley, and Gen. George S. Patton, to mention only a few. The portraits are particularly interesting because the Museum already has in its possession the collection of World War I heroes painted by the same artist.

From the Department of the Navy was received a collection of 13 naval uniforms of World War II. The collection represents the

WAVES, the Nurse Corps, and male officers and enlisted men. Also from the Department of the Navy the division received a collection of Sampson medals representing different ships of Sampson's fleet. The collection is virtually complete and is believed to be the only set of these medals ever assembled.

Numismatics.—The most important accession in this division was the numismatic collection received as a gift from Paul A. Straub. This contains 1,808 gold and 3,844 silver coins, mostly European issues from the fourteenth to the twentieth century. It lacks hardly a rarity of this period, and each coin is in the finest possible state of preservation. The assemblage is remarkable in that it is not a "date" collection but a type collection. As an example, it contains 51 gold coins of Transylvania, a former principality in southeastern Hungary. Dated from 1540 to 1777 these coins portray 27 different rulers. Mr. Straub had a preference for large-size gold coins, and his gift contains hundreds of pieces equivalent in size to a United States \$20 gold piece. The largest is a 50-ducat piece of Venice issued by the Doge Paul Rainerio, 1779-1789. This is equal in weight to five United States \$20 gold pieces. The 3,844 silver coins are nearly all dollar size, although, like the gold, many of them are multiples. The largest is a 10-thaler issued by Henry Julius, of Brunswick-Wolfenbüttel, 1589-1613. Accompanying the collection is a 2-volume expertly prepared catalog.

From the Department of the Army there was received a complete collection, in duplicate, of Allied military currency. The 136 specimen notes were especially printed by the Bureau of Engraving and Printing and were formally presented on April 7, by Gen. E. M. Foster.

Outstanding among the medals transferred by the Treasury Department are two inaugural medals of Harry S. Truman and a bronze galvano plaque of Franklin D. Roosevelt.

The Library of Congress transferred to the National Museum a collection of 1,048 pieces of German "Notgeld" issued during the inflationary period following World War I.

Philately.—In the division of philately 2,890 specimens were received from the Universal Postal Union and the Bureau of Engraving and Printing, through the Post Office Department. This is an increase of 262 specimens over the number received from these sources last year. While George J. Fosdyke, of Los Angeles, Calif., was on vacation in Washington he examined stamps in the United States collection and made notes on some of the missing specimens. Later he sent 16 stamps to fill some of the vacancies. Two interesting and historical covers from the Navy Antarctic Expedition in 1948 were donated by M. L. Peterson, the department's acting curator of military

and naval history. A sheet of 25 unused stamps of 60 centavos of the 1948 issue of Chile, with each stamp of a different design portraying flora and fauna, was received as a gift from the Entomological Society of Washington.

Number of specimens under the department.—At the close of the fiscal year the total number of specimens under the care of the department was as follows:

Civil history -----	34,994
Military history -----	28,484
Naval history -----	4,198
Numismatics -----	61,105
Philately -----	499,584

Total -----	628,365

INSTALLATION AND PRESERVATION OF COLLECTIONS

The cleaning of the specimens of the division of civil history on exhibition not only improved their appearance but also retarded deterioration. About 500 pieces of silverware were polished. Much of it had not been cleaned since it became part of the Museum collection, and the work took most of the time of one laborer for a period of three months. There are still approximately 100 pieces on exhibition, some few more in storage, to be cleaned. The china and glassware were washed and cleaned with one of the new chemical cleaners, and the furniture was dusted, wiped with a damp cloth, and then polished. This project was undertaken with the part-time assistance of one laborer and one assistant curator working with the acting curator. It should be noted that the division of civil history has no laboratory in which work of this kind can be performed.

The usual processes of dusting and the use of insecticides were continued in the costumes collection. The inaugural dress worn by Mrs. William McKinley, which is exhibited in the collection of dresses of the First Ladies of the White House, was repaired under special contract, and the skirt of the dress was backed with net to prevent further deterioration.

The wing chair in the Lewis collection of household furniture from Mount Vernon was also repaired, padded, and covered with muslin. This chair has been in storage for many years because of its poor condition, but it is now planned to have it upholstered and to display it with the other relics of George Washington in our collections.

A considerable amount of work has been accomplished in the division of military and naval history in an effort better to preserve the exhibition specimens. Extensive cleaning and treatment with insecticides should contribute to their protection. An effort has been made

to increase the storage space in the divisions and to improve the facilities for storage of items in the reference collections. Storage units have been rearranged to provide more floor space for the addition of more units in the future, and many classes of specimens, particularly swords and firearms, have been arranged in a manner that should make them more accessible and offer better protection to them.

The usual routine of treating textile materials with insecticides was carried on during the year.

Of the 106 diaphragms in the coin hall exhibit of the division of numismatics, 99 have been cleaned and repainted. The faded gray cloth has been removed from the diaphragms.

In accordance with the results of experiments conducted by Dr. William Blum, of the National Bureau of Standards, 4,200 of the gold and silver coins on exhibit have been cleaned and restored to their natural color. A 5-percent solution of sodium cyanide was used to remove the tarnish, the coins being then carefully washed and dried.

One hundred silver coins were cleaned and then given a thin coat of lacquer. After having been on exhibit for six or more months they show no signs of tarnishing. All other silver coins that have been cleaned but not lacquered are beginning to acquire a tarnished surface.

Cataloging.—All specimens received during the year were cataloged except for the 5,652 coins in the Paul A. Straub collection, which are accompanied by complete data prepared by the collector and can be easily cataloged when time permits.

Exhibition.—The efforts of all divisions have been directed toward the cleaning and rearrangement of all exhibit collections and the relining or painting of all cases in a light color in place of the gray and maroon colors formerly used. This has resulted in a decided improvement in the appearance of the halls and exhibits. This work will be finished during the coming year.

Civil history.—The most important work accomplished by the division of civil history was a general housecleaning of the personal mementos exhibited in the north hall and much of the china, silver, glassware, and furniture exhibited in the west hall. The diaphragms in all the cases were covered with monks-cloth and new labels made for some of the cases. It has been possible to arrange a few of the exhibits in a more logical manner. This work should be finished during the next year. A new exhibition of furniture relating to historic American personages has been arranged in the wall case on the north hall in keeping with the general dedication of the hall to mementos of prominent Americans. The exhibit starts with a pine chest that was part of the household furniture used by General Washington at Mount Vernon and contains furniture used by Benjamin Franklin, Alexander

Hamilton, James Madison, Marquis de Lafayette, John Marshall, Henry Clay, Gen. Ulysses S. Grant, Theodore Roosevelt, and Gen. John J. Pershing, and it ends with the desk and chair used by Gen. Dwight Eisenhower at the Allied Military Headquarters in Italy during World War II.

A special exhibit was arranged in the rotunda of the Natural History Building during the period of the inauguration of President Harry S. Truman. The division of civil history furnished dresses worn at the inaugural balls of Presidents Washington, Lincoln, Benjamin Harrison, and Theodore Roosevelt. The oil painting by J. L. G. Ferris entitled "Washington's Inauguration at Philadelphia 1793" was also a part of this special exhibition.

Military and naval history.—Extensive work was done in rearranging exhibition specimens and in refinishing exhibition cases. In the north hall, naval and military memorial exhibits were removed, cleaned, and rearranged in chronological sequence. The interiors of the cases in the hall were completely refinished in a lighter color, which contributes to the visibility and attractiveness of the displays.

The uniform collection occupying the west gallery was rearranged into a chronological display depicting the development of the U. S. Army uniform from the period of the Revolution to the post World War II period, the development of the U. S. Navy uniform from World War I to the present, and the uniform of women in the services from the period of World War I to the present. The interiors of the cases were refinished a lighter color, which increases the light value and contributes to better visibility.

Collections of army and navy insignia from the period of the Spanish American War to the present have been installed in the rotunda. The collection of swords that occupied this space was moved to the arms court, where it more logically belongs. The wall cases in the rotunda have been refinished in a lighter color and exhibitions of uniforms and military antiquities from the period of the Revolutionary War to the present were installed. These exhibitions serve as an introduction for the visitors to the type collections of divisions.

Numismatics.—The entire numismatic exhibit has been arranged in alphabetical and chronological order. New place cards have been made for each coin and medal and each piece has been given a separate label, clearly typed in black on gray.

A set of United States presidential inaugural medals was exhibited in the rotunda of the Natural History Building in January.

INVESTIGATION AND RESEARCH

T. T. Belote, curator, devoted his time during the entire year to the preparation of a report on "The History and Heraldry of the

Flags of the United States." Miss Margaret W. Brown, acting curator of civil history, made some progress with her study of "The Dresses of the First Ladies of the White House." Research on the development of the United States Naval vessels and uniforms and the United States Army small arms and uniforms was continued by M. L. Peterson, acting curator of naval and military history. The curator of numismatics, Stuart M. Mosher, made a careful study of the books and ledgers kept by the curators of the Mint collection from 1838 to 1909. This study has yielded much useful information, especially in tracing the pedigrees of unusual specimens, and has resulted in the publication of a number of short articles in *The Numismatist*.

ACCESSIONS DURING THE FISCAL YEAR 1948-49

(Except when otherwise indicated, the specimens were presented or were transferred, in accordance with law, by Bureaus of the Government)

- ABBOTT FUND, W. L.,** Smithsonian Institution: 209 skeletons of birds from Liberia, collected by Harry A. Beatty (180308); 2,815 bird skins, 38 birds' eggs, mollusks, and reptiles from Colombia, collected by M. A. Carriker, Jr. (180673); 98 sets of birds' eggs—37 from Brazil, 6 from Venezuela, 42 from Florida, 11 from British Honduras, and 2 from Pennsylvania (181161); 900 bird skins, 24 bird skeletons, 2 sets of eggs, and 4 mammals from Panama, collected by Dr. A. Wetmore and W. M. Perrygo, 1949 (183172).
- ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA,** Philadelphia, Pa.: (Through Dr. Henry A. Pilsbry) 2 paratypes of land mollusks from Peru (182034, exchange).
- ADAMS, J. W.,** Washington, D. C.: 1 specimen of beryl from the California molybdenite mine, southwest of Mount Antero, Chaffee County, Colo. (181007).
- AGENZIA CAMPANA,** Riposto, Sicily, Italy: 2 terra-cotta figurines (180848).
- AGRICULTURE, U. S. DEPARTMENT OF,** Washington, D. C.
- Bureau of Animal Industry,* Beltsville, Md.: (Through Dr. A. O. Foster) 3 pearl fishes from within shells of live scallops taken by C. B. Leary off Tortola Island, Panama Bay, May 3, 1939 (182690).
- Bureau of Entomology and Plant Quarantine:* 6 land and fresh-water shells from Yukon Territory and Algeria (179894); 4 land mollusks from Guatemala (179997); 12 slugs from Moscow, Idaho (180704); 10 land mollusks from Clifton, N. J. (181017); 5 land shells from Alaska (181128); 4 land mollusks from Mexico and Ecuador (181393); 1 amphipod (181726); 1 mollusk from Puerto Rico (182000); 2 plants from Mexico (182824); (through Harold A. Hauke) 50 insects representing 29 species (179967); (through C. F. W. Muesebeck) 3 mollusks (179596); plant-infesting crustaceans, 16 isopods (179747);
- 10 amphipods and 1 land snail (179771); approximately 21 phyllopods (180638); 5 copepods (180700); 9 marine invertebrates (182464); 1 land shell from orchid roots from Guatemala (182652); 4 fresh-water snails from Madagascar (182739); 53,000 miscellaneous insects retained from collections received in Division of Insect Identification during the year (183097).
- Bureau of Plant Industry, Soils, and Agricultural Engineering:* 60 grasses from India and Paraguay (179783); 4 plants from Brazil (179836); 21 grasses from Florida (180411, 180414); 45 grasses from India (180413); 11 grasses from Colombia (181412); 389 plants from Colombia (181624, 182029, 182030, 182993); 6 lichens from Alaska (181649); 5 plants from India (181837); 7 grasses from Puerto Rico (182131); 6 lichens from Colombia (182490); 35 lichens (182514); 493 plants from Colombia, collected by Dr. Richard E. Schultes (183090); (through Dr. Richard E. Schultes) 4 plants (181557); (through John A. Stevenson) 1 lichen from Venezuela (182159).
- Office of Foreign Agricultural Relations:* 1 plant from Ecuador (179952); 1 plant from Guatemala (182821).
- Soil Conservation Service:* 1 phanerogam (180777); 1 grass from Texas (180898); 28 grasses from miscellaneous places (181092); 13 grasses (181145).
- AGUAYO, Dr. A. G.,** Habana, Cuba: 15 paratypes of land and marine mollusks and 2 lots, 3 paratypes, of fossil marine mollusks from Cuba (180106, exchange).
- ALABAMA POLYTECHNIC INSTITUTE,** Auburn, Ala.: 2 plants (182491).
- ALBANESE, JOHN S.,** Newark, N. J.: 1 chlorophoenicite from Franklin, N. J. (181497).

- ALCORN, J. R., Fallon, Nev.: 382 fishes from British Columbia collected by donor in July 1948 (180368).
- ALLARD, H. A., Arlington, Va.: 160 plants from Virginia (171964); 249 plants from Virginia and West Virginia (181389).
- ALLARD, HOWARD F., Arlington, Va.: 60 insects collected by donor at Ciudad Trujillo, Dominican Republic (179963).
- ALLEN, DR. A. A., Ithaca, N. Y.: 3 birds and 1 set of 4 eggs of the bristle-thighed curlew (183143).
- ALLEN, J. E., Bristol, Tenn.: Calumet and catlinite pipe bowl from the Dakota Sioux (181219).
- ALLEN, JAMES M., Cody, Wyo.: 18 specimens of the fossil *Problematicum cruziana* from Big Horn Mountains, Wyo. (180535).
- ALLEN, WILLIAM T., Washington, D. C.: Bowl of a white clay pipe found near Yorktown, Va., May 2, 1947 (182271).
- ALLENTUCK, DAVID I. (See under Alpha Process Co.)
- ALLISON, W. B., New Orleans, La.: 2 plants from Mississippi (179837).
- ALPHA PROCESS CO., Washington, D. C.: (Through David I. Allentuck) 18 specimens of Modern Commercial Silk Screen Process Printing including 1 decalcomania; a set of 12 pictorial illustrations made for the United States Maritime Commission; 3 pictorial scenes of Washington; book cover "Colorama" for specimen book of Alpha Process Co.; and 1 advertising card (182500).
- AMEN, IRVING, New York, N. Y.: 32 woodcuts by Mr. Amen, lent for special exhibition during January 1949 (181504, loan).
- AMERICAN CYANAMIDE CO., *Lederle Laboratories Division*, Philadelphia, Pa.: 21 biological products (183169).
- AMERICAN EMBASSY, Paris, France. (See under Mme. Marguerite Bernard Passedouet.)
- AMERICAN MUSEUM OF NATURAL HISTORY, New York, N. Y.: Collection of sherd types from excavations made at Paohacamac and in the Chancay Valley of the central Peruvian coast (179829); 38 sea-stars from the Philippine Islands collected by Dr. W. G. Van Name and G. R. Oesch (180242); 7 saturniid moths, representing 5 species, all paratypes (180490); (through John C. Armstrong) 11 sea-urchins (180515); (through C. M. Bogert) 1 frog, from Akyma, Demerara River, British Guiana, collected by J. Rodway in 1919 (181120, exchange); (through Dr. C. H. Curran) 8 flies, representing 5 species, all paratypes (182721, exchange); (through Dr. Otto Haas) 2 Cretaceous ammonites from Wyoming (181503, exchange).
- ANDERSON, P. K., Bogotá, Colombia: Collection (9 specimens) of current paper money and coins from Colombia (180319).
- ANDHERA UNIVERSITY, Waltair, South India: 2 cryptogams (181833).
- ANGELL, W. L. (See under Nome Public Schools.)
- ANONYMOUS: Model of a plow, found in the Division of Ethnology with no record (179841); decorated earthenware tureen and earthenware nappy (180559); 25 fishes from Venezuela collected by Williams College Lyceum of Natural History during exploration in Venezuela, probably about 1860 (181005); 2 polychrome weavings, a carrying bag, and a cap from the Indians of the Province of Las Muñecas, Bolivia (181508).
- ANSCO, Binghamton, N. Y.: (Through Kenneth S. Johnson) 40 Princeton color prints lent for January 1949 exhibit (181447, loan); (through William J. Nagel) 6 Princeton color photographs (180163); four 8 by 10 Ansco color-film transparencies and 1 illuminated display unit (181446).
- APOLINAR-MARÍA, Rev. Brother, Bogotá, Colombia: 40 plants from Colombia (181481, 182237, 182238, 183085).
- ARABIAN AMERICAN OIL CO., San Francisco, Calif. (in cooperation with Smithsonian Institution, National Museum): 5,000 fishes, mollusks, marine invertebrates, echinoderms, insects, algae, birds, reptiles, and amphibians from region of Persian Gulf and Red Sea, collected by Donald S. Erdman (178732, collected for Museum).
- ARELLANO, Ing. A. R. V., Mexico, D. F.: 75 land mollusks from Mexico (182081); approximately 1,000 land and fresh-water mollusks (Pleistocene?) from marl near Aguascalientes, Aguascalientes, Mexico (183100).
- ARIZONA, UNIVERSITY OF, Tucson, Ariz.: 4 grasses from Arizona (181535).
- ARMSTRONG, JOHN C. (See under American Museum of Natural History.)
- ARNETT, Dr. Ross H., Washington, D. C.: 6 beetles, including types (183012).
- ARNHEM LAND EXPEDITION (under auspices of Commonwealth of Australia, National Geographic Society, and Smithsonian Institution): Anthropological and natural-history specimens from Arnhem Land, Northern Territory, Australia, collected during 1948

- by H. G. Deignan, Dr. D. H. Johnson, Dr. R. R. Miller, and F. M. Setzler (178294, collected for the Museum).
- ARNOLD, Dr. GEORGE. (See under National Museum of Southern Rhodesia.)
- ARNOLD, Mrs. J. M., East Orange, N. J.: A Washington Centennial print of 1876 (179768).
- ARTISTS' GUILD OF WASHINGTON, Washington, D. C.: (Through Leo Steppat) 45 prints and drawings by members of the Artists' Guild of Washington for special exhibition, August 2 through September 6, 1948 (180023, loan).
- ARTZ, LENA, Waterlick, Va.: 1 phanerogam from Virginia (181494).
- ASCHEMEIER, CHARLES R., Washington, D. C.: 1 shrew collected 2 miles north of Annapolis, Md. (180787); 4 fox skulls collected in Orlean and Warrenton, Va., September and October 1948, and 1 raccoon skull from Prince Georges County, Md., October 1948 (181013); 1 fox skull from Middleburg Va., and 1 bear and 1 deer skull collected in Bath County, Va. (181286); 1 bear skull from Manns Harbor, N. C., and 1 red fox skull from Montgomery County, Md., both collected in December 1948 (181379); 1 skeleton of gray fox from Hagerstown, Md. (181453); skull of a red fox from near Rockville, Md. (181509); 2 foxes (183187). (See also under Gordon Leech.)
- ASTON, Capt. M. J. (See under National Military Establishment, *Department of the Navy, National Naval Medical Center.*)
- AUSTRALIA, COMMONWEALTH OF. (See under Arnhem Land Expedition.)
- AUSTRALIAN MUSEUM, Sydney, New South Wales: (Through Dr. A. B. Walkom) 4 Australian meteorites—Moonbi, 74 grams; Tawallah Valley, 168 grams; Narellan, 33.7 grams; Elsinora, 86 grams (183020, exchange).
- BAER, FRANCIS M., Washington, D. C.: 2 fossil fishes from Prince William County, Va. (180906).
- BAILEY, ALFRED M., Denver, Colo.: 1 set of wing bones (humerus, radius, ulna) of a green-throated loon (180041).
- BAILEY, Dr. EDGAR H., Los Gatos, Calif., and Prof. A. O. WOODFORD, Claremont, Calif.: 2 specimens of awfwillite from Crestmore, Calif. (182726).
- BAILEY, FLORENCE MERRIAM. (See under Smithsonian Institution, *Bureau of American Ethnology.*)
- BAILEY, Dr. REEVE M. (See under University of Michigan.)
- BAILEY, HORTORIUM, Cornell University, Ithaca, N. Y.: 13 Mexican lichens (180978, exchange); 5 plants from Mexico (181873); 3 grasses from Mexico (182324).
- BAKER, Dr. ROGER C., Fayetteville, Ark.: 1 specimen of problematical cephalopod from the Mississippian rocks of Arkansas (182498); approximately 500 Mississippian mollusks from northwestern Arkansas and 3 crinoid slabs from the Devonian Delaware limestone of Ohio (182697).
- BALDWIN, Dr. J. T., Jr., Williamsburg, Va.: 11 lots of marine and land mollusks and 1 jar of frogs from Monrovia, Liberia (180086); 15 lichens from Liberia (181107); 2 chorus frogs from Five Forks, James City County, Va., collected February 13, 1949, by donor (181871); 1 leech (182515).
- BALK, Dr. CHRISTINA LOCHMAN, Chicago, Ill.: Approximately 750 Upper Cambrian trilobites and other fossils from Montana, including type specimens illustrated in papers by Dr. Donald Duncan and donor (180482); 1 Pennsylvanian brachiopod from 1/8 mile north of Copper, Colo. (181501).
- BANKS, Mrs. MINYA DE M., Eustis, Fla.: Hindu sari of woven silk (180923).
- BANNISTER, F. A. (See under British Government, *British Museum (Natural History).*)
- BAPTISTE, WILLIAM J., Fellsmere, Fla.: 2 flies from Cuba (180182).
- BARNEY, RUPERT C., Wappingers Falls, N. Y.: 2 isotypes of plants (180736).
- BARNÉS, VENTURA, Jr., Mayagüez, Puerto Rico: 1 motmot from Venezuela (180268).
- BARNES, WILLIAM, Sydney, New South Wales: 3 birds-of-paradise (181827).
- BARR, WILLIAM F., Moscow, Idaho: 1 beetle from Verma, Calif. (181934); 2 beetles (182944).
- BARTON, OTIS, Boston, Mass.: (Through Dr. Samuel F. Hildebrand) 16 fishes from Talara, Peru (181063).
- BARTSCH, Dr. PAUL, Washington, D. C.: 1 chipping sparrow (179951); approximately 45 mollusks from West Virginia (180774); 2 bobwhites (182879, 183023).
- BASSLER, Dr. RAY S. (See under E. H. Sarles and Dr. E. Voigt.)
- BAXTER, WILLIAM T., Bethesda, Md.: 2 specimens of nephrite jade (one cut and one uncut) from 40 miles west of Saratoga, Carbon County, Wyo. (181238).
- BAYER, FREDERICK M., Washington, D. C.: 2 parasitic copepods taken from fish specimen collected at Biak Island,

- New Guinea (179808); 12 cowries from Biak Island (182837). (See also under Frank Lyman, University of Miami, and Mr. and Mrs. John Wentworth.)
- BEAMER, DR. R. H. (See under University of Kansas.)
- BEATTY, HARRY A., Bronx, N. Y.: 51 marine invertebrates and 1 mollusk (180277).
- BECK, Prof. CARL W. (See under University of New Mexico.)
- BELGIN, HARVEY, San Antonio, Tex.: (Through Mrs. Harvey Belgin) 77 pictorial photographs of Japan, the Philippines, and Okinawa for special exhibition during March 1949 (182032, loan).
- BELL, MARGARET E., Loring, Alaska: 110 plants from Alaska (181653).
- BELL, DR. W. C., Minneapolis, Minn.: 3 pieces of Cambrian quartzite containing impressions of snails (181171).
- BENGSTON, Mrs. GEORGE, Waterloo, Iowa: 5 land and fresh-water mollusks from Iowa (180246).
- BENTON, Mrs. EDITH KEYES (deceased): (Through Walter C. English.) The Don Diego Columbus table conditionally bequeathed to the National Museum by Mrs. Benton (180038, deposit).
- BERRY, Mrs. HAROLD, Washington, D. C.: (Through Mrs. James E. Coats.) A 16th century tobacco box of brass and copper, an earthenware bowl from Guadalajara, Mexico, and a spoon from Chiriquí, Panama (180492).
- BERRY, DR. S. STILLMAN, Redlands, Calif.: 105 land and marine shells from Arizona, California, and Mexico and 33 paratypes of mollusks from Tertiary of California (180144); 22 land shells from Montana (180561).
- BERTRAM, RICHARD H., Miami, Fla.: 1 mollusk from Biscayne Bay, Miami Beach, Fla. (179977).
- BETHEA, Rev. JAMES E., St. Simons Island, Ga.: 5 marine mollusks from Georgia and the Philippine Islands (182897).
- BEYERS, DR. H. OTLEY, Manila, P. I.: 20 tektites from the Philippine Islands, 10 from Santa Mesa, Rizal Province, and 10 from Pugad Babuy, Bulacán Province (183158).
- BIESE, DR. WALTER, Santiago, Chile: 25 lots, of which 16 are paratypes and topotypes, approximately 300 specimens, of a fresh-water mollusk from Chile (181455, exchange).
- BIGGS, Rev. H. E. J., Bromley, Kent, England: 15 beetles, representing 15 species, from Persia (181765, exchange).
- BISHOP MUSEUM, BERNICE P., Honolulu, T. H.: 198 ferns from the South Pacific (182700, exchange); 645 plants from the Pacific Islands (182998, exchange); (through Dr. C. H. Edmondson) 7 crabs (178855); 50 amphipods from Tsingtao, China (179816); (through E. C. Zimmerman) 10 Hymenoptera, representing 6 species of 5 genera, including 1 paratype (181568).
- BISSELL, H. S., Las Cruces, N. Mex.: 2 inscribed wooden tablets from Easter Island, South Pacific (180536).
- BITTON, E. QUINTON, Norfolk, England: 10 sets, 21 specimens of birds' eggs (180584, exchange).
- BLACK, RALEIGH A., Mont Albert, Victoria: 39 grasses from Australia (180340, exchange).
- BLAIR, LOUISE F., Hyattsville, Md.: 6 chased and embossed lidded silver vessels collected in Siam, an ancient bronze revolving key, a terra-cotta oil jug from ancient Greece, and an ancient Etruscan bronze mirror (182-391).
- BLANDY EXPERIMENTAL FARM, Boyce, Va.: 205 plants (182487, exchange).
- BLOK, Dr. ARTHUR, Rottingdean, Sussex, England: 10 mollusks from England (179979).
- BOGERT, C. M. (See under American Museum of Natural History.)
- BOHART, DR. RICHARD M., Davis, Calif.: 3 flies collected by donor near Davis (179965). (See also under University of California.)
- BOMAR, Mrs. EDWARD E. (See under E. Bertha Chinn.)
- BONHAM, DR. KELSHAW. (See under University of Washington, *Applied Fisheries Laboratory*.)
- BOONE, J. D. (See under Mrs. L. P. Jones.)
- BORGMEIER, DR. THOMAZ, Rio de Janeiro, Brazil: 91 ants (181242, exchange).
- BOTERO-RESTREPO, GILBERTO. (See under Colombian Geological Survey.)
- BOTTS, VICTOR V., Paso Robles, Calif.: 15 chalcedony biconids from near Paso Robles (181728).
- BOWER, W. J., St. Petersburg, Fla.: 8 specimens of a marine mollusk from Shell Isle, Fla. (181937).
- BOWSHER, ARTHUR L., Washington, D. C.: 25 fresh-water shells from Yunnan, China (180143); 10,000 Paleozoic invertebrate fossils from North America and Asia (181282); 1 specimen of vermiculite from Gunnison-Lake City Road, near Powderhorn, Colo., 1 lot of aragonite crystals from 20 miles north-northwest of

- Amarillo on north side of Canadian River, Moore County, Tex., and 1 sample of gypsum sand, White Sands National Monument, Alamogordo, N. Mex. (181755). (See also under Phil Kaiser and Dr. R. L. Laudon.)
- Box, HAROLD E., Maracay, Estado Aragua, Venezuela: 14 reared flies from Venezuela (181702).
- BOYD, CECIL, and J. J. BOYD, Hillsboro, N. Mex.: 2 pieces of limestone containing 100 snails and clams from lower Pennsylvanian rocks west of Cecil's Ranch House, Sierra County, N. Mex. (181343).
- BRAMLETTE, W. A., Denver, Colo.: 1 crinoid, holotype, from Permian rocks of Texas (180102).
- BRAY, ROBERT S., Washington, D. C.: Approximately 11,000 crustaceans (180642).
- BRENCKLE, Dr. J. F., Mellette, S. Dak.: 96 plants (182694, part exchange).
- BRIDGE, Dr. JOSIAH, Washington, D. C. (See under U. S. Department of the Interior, *Geological Survey*.)
- BRIDWELL, J. C., Lignum, Va.: 12 mollusks from Lignum (182836); collection of mollusks and amphibians from Virginia (183173).
- BRIGHAM YOUNG UNIVERSITY, Provo, Utah: 36 plants (181597); 17 grasses from Utah (181788).
- BRISTOL, UNIVERSITY OF, Bristol, England: (Through Dr. W. F. Whittard) 364 Paleozoic and Mesozoic brachiopods and 111 Paleozoic corals from England (180481, exchange).
- BRITISH GOVERNMENT:
Department of Agriculture, Kingston, Jamaica: (Through W. H. Edwards) Approximately 10 specimens of aphids from Jamaica (179897).
British Museum (Natural History), London, England: 9 Hymenoptera, representing 8 species and including 3 paratypes (181746, exchange); (through F. A. Bannister) 5 minerals: staurolite from Northern Rhodesia, banalsite and pennantite from Caernarvonshire, England, kalsilite from Uganda, braggite and cooperite from Transvaal, and earlandite from Weddell Sea (181135, exchange); (through Dr. H. Dighton Thomas) 1 Jurassic sponge and a piece of the holotype of a Cretaceous coral from England (181558); (through W. E. China) 2 bugs (181581, exchange); (through Dr. W. J. Rees) 5 paratypes of land mollusks from Africa, representing forms new to the National Museum's collection (181812, exchange); (through Dr. Howard E. Hinton) 3 beetles (182889, exchange).
- Commonwealth Institute of Entomology*, London, England: (Through Dr. Maurice T. James) 2 paratypes of flies deposited by Dr. M. T. James at the suggestion of Dr. F. van Emden (179960); (through Dr. F. van Emden) 2 flies from Africa (182892).
- BROCK, VERNON. (See under Hawaii Board of Agriculture and Forestry.)
- BROMLEY, Dr. S. W., Stamford, Conn.: 78 flies including 8 paratypes (180036, 180281, 181012); 148 specimens, 22 species, of wasps, and 20 flies representing 5 species (181449); 175 insects, consisting of 33 specimens, 18 species of North American wasps, 110 bees and 32 flies from India (181562).
- BROOKINGS, Mrs. WALTER DU BOIS, Alexandria, Va.: Lace pillow, 30 inches of lace edging, bobbins, and 2 tape patterns used by donor's great-grandmother, Mrs. Elizabeth Lord Lakeman, between 1767 and 1862, and a square of block-printed linen cloth (180233).
- BROWN, Dr. BARNUM, New York, N. Y.: (Through Dr. Roland W. Brown) 48 blocks of clay containing plant fossils from near Pelancia, Guatemala (180403).
- BROWN, Dr. D. A., London, England: 68 specimens, 30 species, of Tertiary and Recent Bryozoa from New Zealand (180197).
- BROWN, F. MARTIN, Colorado Springs, Colo.: 6 butterflies, representing 6 species new to the collection (180499, exchange).
- BROWN, Dr. IDA A. (See under University of Sydney.)
- BROWN, MABEL A., BRONXVILLE, N. Y.: Military decoration, the Kearney Cross (181700).
- BROWN, Dr. ROLAND W., Washington, D. C.: 3 slabs of Upper Devonian sandstone with impressions of fossils (181009). (See also under Dr. Barnum Brown and U. S. Department of the Interior, *Geological Survey*.)
- BROWN, Dr. W. J. (See under Canadian Government, *Department of Agriculture*.)
- BROWN, WILLIAM L., Jr. (See under Harvard University, *Biological Laboratories and Museum of Comparative Zoology*.)
- BROWN UNIVERSITY, Providence, R. I.: 3 grasses (180778).
- BRYAN, MILTON M., Arlington, Va.: 1 model of New York Central "Hudson" type locomotive with section of track and 1 refrigerator car model with section of track (179875, loan).

- BULL, S. J.**, Pedro Miguel, Canal Zone: 27 insects (180404).
- BULLOCK, Prof. T. H.**, Los Angeles, Calif.: 146 marine invertebrates, together with echinoderms (181863).
- BUNGART, Mrs. PETER A.**, Lorain, Ohio: 3 arthrodiran fishes collected by Peter A. Bungart from Upper Devonian shales of northern Ohio (181113).
- BURANEK, A. M.**, Salt Lake City, Utah: 1 cut stone of labradorite from Clear Lake, Millard County, Utah, weighing 3.1 carats (180076, exchange).
- BUSHLAND, R. C.**, Kerrville, Tex.: 1 paratype of chigger (182077).
- BUSHNELL, DAVID I., Jr.** (deceased): (Through executor of the Bushnell Estate) Archeological specimens from Egypt, Switzerland, France, and Italy and from Illinois, Missouri, Virginia, Alabama, South Carolina, Oregon, and District of Columbia; also coins and medals (180456).
- BUXTON, Dr. P. A.** (See under London School of Hygiene and Tropical Medicine.)
- BYER, PAUL H.**, Hagerstown, Md.: Key-stone typewriter with case (182326).
- BYRD, Prof. ELON E.**, Athens, Ga.: Approximately 50 land, fresh-water, and marine shells and also reptiles and crustaceans from Tutuila Island, Samoa Islands (181797).
- CABALLERO Y CABALLERO, Dr. EDUARDO**, Mexico, D. F.: 2 slides of trematode from Veracruz, Mexico (181046).
- CALHOUN, Dr. JOHN B.**, Baltimore, Md.: 12 rodents and 10 insectivores (181214).
- CALIFORNIA, UNIVERSITY OF**, Berkeley, Calif.: 11 grasses from California (179953, exchange); 56 grasses from Mexico (180048, exchange); 50 ferns from Mexico (180049, exchange); 12 Fijian potsherds collected by Prof. E. W. Gifford in 1947 (180235); 1 fern (180257, exchange); 128 Mexican and Central American plants (180433, exchange and gift); 3 grasses from Mexico (181209); 236 plants from Guam collected by Robert Rodin (181978, exchange); 52 grasses (182399, exchange); (through Dr. Richard M. Bohart) 16 paratypes of mosquitoes (175538, exchange); (through Prof. Harold Kirby) 11,765 miscellaneous marine invertebrates, together with diatoms, mollusks, echinoderms, and amphibians (180084); (through Paul D. Hurd) 4 beetles (180964); (through Dr. E. W. Jameson) 25 mites, including type specimens (181118); (through Dr. Frank Pitelka) 7 isopod types (181174).
- Citrus Experiment Station*, Riverside, Calif.: (Through Prof. P. H. Timberlake) 2 bees (179858, exchange).
- CALIFORNIA ACADEMY OF SCIENCES**, San Francisco, Calif.: 45 grasses from California (179570, 180397, exchange); 24 grasses from California (181208, 182550, 182256); 8 plants, including 4 isotypes, from California (181230, 182398, exchange); (through Dr. D. Elmo Hardy) 1 paratype each of 2 species of flies (180030); (through Hugh B. Leech) 2 beetles, both paratypes (180786, exchange); (through Dr. E. C. Van Dyke) 6 beetles, representing 3 species (182888); (through Dr. Allyn G. Smith) 10 paratype lots, 30 marine, land, and fresh-water mollusks from California and Idaho (182901).
- CALLAN, Dr. E. McC.** (See under Imperial College of Tropical Agriculture.)
- CAMAIN R., Le Médecin Capitaine.** (See under Institut Pasteur.)
- CAMBRIDGE, Sgt. P.**, Cardiff, South Wales: 135 assorted invertebrate fossils from Mesozoic and Paleozoic deposits of England (181355, exchange); approximately 400 land, fresh-water, and marine mollusks from Great Britain (183189, exchange).
- CAMPBELL, GUY**, Corydon, Ind.: 500 specimens of Mississippian Rockford formation invertebrate fossils from Floyd County, Ind. (179823); 2 lumps of Rockford limestone containing invertebrate fossils from Mississippian of Indiana (180314).
- CAMRAS, Dr. SIDNEY**, Chicago, Ill.: 7 flies (178219, 181764).
- CANADIAN GOVERNMENT**, Ottawa, Ontario:
Department of Agriculture, Division of Entomology: (Through Dr. W. J. Brown) 138 beetles representing 33 species, of which 18 are paratypes (181847, 181998); 14 grasshoppers representing 3 species (182268).
Department of Agriculture, Central Experimental Farm: 382 plants from Canada (179027, 182675, 183024, exchange).
- CANFIELD FUND**, Smithsonian Institution: 1 specimen of haunynite from Ariccia (Rome), Italy (179446); a specimen of chalcocite after wood from the Copper Glance mine, New Mexico (179763); 1 quartz crystal from Otomezaki mine, Yamanashi Prefecture, 1 axinite specimen from Obira mine, Oita Prefecture, 75 danburites from Toroku mine, Miyazaki Prefecture, all Japan (179822); 1

- aquamarine with mica, weighing over 1,800 grams, from Minas Gerais, Brazil (180138); 6 specimens of portlandite from Mexico (180228); 1 lot of labradorite from Clear Lake, Utah (180229); 1 specimen of mottramite from Mammoth mine, Tiger, Ariz. (180275); 14 specimens of Gold Hill, Utah, arsenates and 1 lot of labradorite from Clear Lake, Millard County, Utah (180370); specimen of chalcocite after wood from the Copper Gance mine, Cuba, N. Mex. (180371); 4 minerals from North Groton, N. H., and Greenwood, Maine (180463); 1 crystallized gold on quartz, Nakaze mine, Hyogo, 1 gold with stibnite, Nakaze mine, and 3 quartz groups of twin crystals, Suisho Toge, Yamashashi, Japan (180478); a specimen of borax from Boron, Kern County, Calif. (180595); 2 minerals from Franklin, N. J. (180798); 3 minerals from various localities in Italy (180917); collection of 30 minerals from Mexico (181006); 2 specimens of ludlamite and messelite from the Palermo mine, North Groton, N. H. (182063); 1 magnesium-chlorophoenicite and 3 chlorophoenicites from Franklin, N. J. (182070); 2 specimens of pascoite, corvusite, and vanoxite from Club mine, Uravan, Montrose County, Colo. (182071); 1 amblygonite from Newry, Maine (182072); 1 columbite from Keystone, S. Dak. (182261); 2 specimens of caledonite and 1 of linarite from San Bernardino County, Calif. (182329); 1 jamesonite and 1 chalcopryrite from Cananea, Sonora, Mexico (182330); a zircon crystal from 50 miles north of Alice Springs, Northern Territory, Australia (182384). (See also under Ward's Natural Science Establishment.)
- CARMIN, DR. JOSEPH, Ramatajim, Palestine: 23 land and fresh-water shells from Palestine (177198).
- CARNEGIE MUSEUM, Pittsburgh, Pa.: (Through Gordon K. Macmillan) 59 land shells from Pennsylvania and West Virginia (181936, exchange).
- CAROBBI, Prof. GUIDO, Florence, Italy: A specimen of mercallite from Vesuvius, Italy (181938, exchange).
- CARSON, J. B., Sierra Blanca, Tex. and Dr. EARL INGERSON, Washington, D. C.: 2 specimens of Cretaceous echinoid with several spines of the same from vicinity of Sierra Blanca, Tex. (179677).
- CARSON-NEWMAN COLLEGE, Jefferson City, Tenn.: (Through Prof. J. D. Ives) 6 flies (181587).
- CARVALHO, Dr. JOSÉ C. M., Rio de Janeiro, Brazil: 2 paratype bugs (177-490, exchange).
- CARVALHO, Dr. J. PAIVA, São Paulo, Brazil: 7 pipefishes from Brazil (180162).
- CASTELLANOS, A., Buenos Aires, Argentina: (Through Dr. Lyman B. Smith) Mesh bag and cordage made by Matacos Indians living near source of the Pilcomayo River, northwest Formosa, near Ingenio Juárez, Argentina (182392).
- CENTRAL ASIATIC RESEARCH FOUNDATION, Karachi, Pakistan: (Through Dr. John Clark) 2 specimens of stibnite, Chitral District, northern Kashmir, Pakistan (180534).
- CHACE, Dr. FENNER A., JR., Washington, D. C.: 11 crabs (180354).
- CHADWICK, C. E., Sydney, New South Wales: 14 bugs, representing 7 species (182224, exchange).
- CHAMBERLAIN, E. B., Charleston, S. C. (See under Roger Conant.)
- CHAMBERLAIN FUND, FRANCES LEA, Smithsonian Institution: 1 brazilianite cut stone weighing 41.9 carats from Conselheira Pena district, Arrasuahy, Minas Gerais, Brazil (180409); 2 danburite cut gems, one 7.85 carats from Obira mine, Oita Prefecture, and the other 3.75 carats, Toroku mine, Miyazaki Prefecture, from Japan (180477); 1 diamond, green color produced by bombardment in a cyclotron (182663); 1 orange sapphire (182883); a cut stone of synthetic rutile, 22.5 carats (183095).
- CHAO, HSU-FU, Amherst, Mass.: 5 dragonflies (181434).
- CHAPIN, Dr. EDWARD A., Washington, D. C.: 1 mollusk from Linnaeus Garden, Uppsala, Sweden (180563); a silver watch by Edward D. Johnson (1816-1889), London, marked "Railroad Timekeeper, 13869" (183092).
- CHAPMAN, Dr. WILBERT M., Washington, D. C.: 13,734 fishes from the tropical Western Pacific in the Solomons and East Indies region (180183).
- CHASE, JOSEPH CUMMINGS, New York, N. Y.: 44 portraits of World War II heroes painted by donor (166217); portraits of Sgt. Alvin C. York and Sgt. Samuel Woodfill painted by donor during World War I (180139).
- CHASE, VIRGINIUS H., Peoria Heights, Ill.: 652 packets of mosses from Mississippi Valley (181164); 1,882 grasses from Illinois and Arkansas (181165, 181975); 535 plants from United States (181924, exchange).
- CHATMAN, ROBERT H., Washington, D. C.: Discoidal club head of polished diorite from the Fly River area of the Territory of Papua, New Guinea, collected in 1942 (182335).

- CHEN, Dr. H. T., Chicago, Ill.: 15 freshwater mollusks from near Canton, China (181511).
- CHENG, N., Peiping Station, China: 33 plants from China (179834).
- CHICAGO ACADEMY OF SCIENCES, Chicago, Ill.: (Through Dr. Albert G. Smith) 2 paralectotypes of a new Western Plains garter snake from Dewey County, S. Dak. (182732).
- CHICAGO NATURAL HISTORY MUSEUM, Chicago, Ill.: 12 ferns from Nicaragua and Honduras (180005, exchange); 2 algae from Maryland collected by Drouet and Killip (180074, exchange); 1 grass from Venezuela (180396); 6 plants from Ecuador (180529, 182037), 346 plants from Colombia (180542, 180543, 180739, 181167, exchange); 296 plants chiefly from Central America (180545, exchange); 35 fragments of South American plants (180605); 19 plants from Ecuador (180706, exchange); 29 photographs of plants (180734, 180982, exchange); 1 grass from Missouri (181001, exchange); 1 grass from Ecuador (181492, exchange); 8 Colombian plants collected by J. Cuatrecasas (181692); 3 photographs of Venezuelan plants (181646, exchange); 2 phanerogams from Ecuador (182158); 7 plants from Colombia (182258); 1 fragment of plant from a requested loan (182449).
- CHIESA, DOMINIC, San Francisco, Calif.: 40 pictorial photographs for exhibition during December 1948 (181114, loan).
- CHILE EXPLORATION Co., New York, N. Y.: (Through Burr Wheeler) 18 minerals from Chuquicamata, Chile, including salesite, bellingerite, sampleite and marshite (180150).
- CHIN, TA HSUNG, Shanghai, China: Type specimens of 2 new species of helminths from a cormorant from Illinois (179664).
- CHINA, W. E. (See under British Government, *British Museum (Natural History)*.)
- CHINN, E. BERTHA: (Through Mrs. Edward E. Bomar) Black satin dress and white taffeta dress trimmed with blue velvet of the period 1875-1890 (182334, bequest).
- CHRIST, J. H., Portland, Oreg.: 7 grasses from Idaho (181538).
- CHURCH, Dr. J. E., Alexandria, Va.: Fuegian skull with lower jaw (180128).
- CITRON, MINNA, New York, N. Y.: 39 prints including etchings and lithographs by the lender for special exhibition during March 1949 (181844, loan).
- CLAGHORN, Mrs. CONSTANCE I., Cabin John, Md.: 3 etchings (180231).
- CLARK, AUSTIN H., Washington, D. C.: 1 land shell from Highland County, Va. (179978).
- CLARK, ELLEN, Box Hill, Victoria: 8 crayfish (181297).
- CLARK, Dr. JOHN. (See under Central Asiatic Research Foundation.)
- CLARK UNIVERSITY, Worcester, Mass.: 3 grasses from Massachusetts (179902, 180279, exchange); 1 grass from Massachusetts (181655).
- CLAUDE, Mrs. W. T., Elkridge, Md.: 1 insect from Maryland (180520).
- CLEBSCH, ALFRED, Clarksville, Tenn.: 30 grasses from Tennessee (182005).
- CLEMENS, HOWARD P., Put in Bay, Ohio: 14 amphipods (179030).
- CLÉMENT, Rev. Brother, Santiago, Cuba: 67 ferns from Cuba (182459, 182746).
- CLENCH, WILLIAM J., Cambridge, Mass.: 22 crustaceans from the Philippines (182580). (See also under Harvard University, *Museum of Comparative Zoology*.)
- CLIFTON, Mrs. HENRY, New York, N. Y.: Wooden model of a railroad automatic coupler invented by Col. Ezra Miller (179745).
- CLINE, Dr. LEWIS M., Madison, Wis.: 1 Mississippian crinoid from Indiana (181806).
- COATES, Mrs. JAMES E. (See under Mrs. Harold Berry.)
- COCHRAN, Dr. DORIS M., Washington, D. C.: 1 young robin and 1 olive-backed thrush (179863, 183145).
- COCKE, Mrs. H. T., Washington, D. C.: Pheasant-feather parasol of middle 19th century (180949).
- CODY, MORRILL, Washington, D. C.: 101 miscellaneous insects from Paraguay (181010).
- COHEN, Mrs. LOUIS, Arlington, Va.: Brain of Dr. Louis Cohen (180743).
- COLE, H. J., Washington, D. C.: 224 reptiles and amphibians and 1 fish collected in various eastern States by donor (179935).
- COLE, O. C., Kenyon, Minn.: About 2,000 invertebrate fossils from Ordovician (Decorah) of Minnesota (179571); about 500 Middle Ordovician invertebrate fossils from Minnesota (179821); 2,500 Middle Ordovician invertebrate fossils from vicinity of Kenyon (180153); 2,500 assorted invertebrate fossils from Ordovician of southern Minnesota (181804).
- COLEGIO ANCHIETA, Pôrto Alegre, Rio Grande do Sul, Brazil: 54 grasses from Brazil (179246, exchange); 48 grasses from Brazil (180047).

- COLEGIO ANCHIETA, Nova Friburgo, Estado Rio de Janeiro, Brazil: 11 plants from Brazil (181488).
- COLEMAN, ROBERT H., Charleston, S. C.: 7 rodents from Arizona, Montana, and New Mexico (174894).
- COLLEGE OF AGRICULTURE, Poona, India: 20 plants (180226, exchange).
- COLLEGE OF PUGET SOUND, Tacoma, Wash.: 1 plant from Washington (183027).
- COLLEGE OF THE PACIFIC, *Pacific Marine Station*, Dillon Beach, Calif.: (Through Robert J. Menzies) 34 isopod types (181173).
- COLLIER, ALBERT, New Orleans, La.: 8 brackish-water mollusks from Mississippi Delta (180248).
- COLLINS, Dr. HENRY B., Jr. (See under Willie Knutsen.)
- COLLINS, LEIGH R., Pittsburgh, Pa.: Incomplete articulated skeleton of an amphibian from Mississippian, Mauch Chunk series, at Greer, W. Va. (180791).
- COLOMBIAN GEOLOGICAL SURVEY, Bogotá, Colombia: (Through Gilberto Botero-Restrepo) 4 lots of Devonian invertebrate fossils from Colombia (181178, exchange).
- COLORADO, UNIVERSITY OF, Boulder, Colo.: 59 plants (180258, 181374, exchange); 10 grasses from Colorado and Canada (181415).
- COLORADO A. & M. COLLEGE, Fort Collins, Colo.: 2 fragments of plants (182486).
- CONANT, ROGER, Philadelphia, Pa.: 12 land shells from Smith Island, Northampton County, Va. (181016).
- CONANT, ROGER, Philadelphia, Pa., and E. B. CHAMBERLAIN, Charleston, S. C.: 1 reptile paratype from Louisiana and a neotype of reptile from South Carolina (179933).
- CONARD, Prof. HENRY S., Grinnell, Iowa: 118 mosses from various localities (181648).
- CONDE, VICENTE, Cárdenas, Cuba: Approximately 100 mollusks from Cuba (182617, exchange).
- CONOVER, J. TOWNE, Allentown, Pa.: 52 ferns from Okinawa (179839).
- COOGLE, Dr. C. P., Houston, Tex.: 4 mosquitoes from Texas (181703); 8 flies, representing 4 species, from Texas (182056).
- COOK, Prof. E. FULLERTON, Philadelphia, Pa.: Remington's "Practice of Pharmacy" by Cook-Martin, 9th edition (180142).
- COOKE, Dr. C. WYTHE. (See under Mrs. L. P. Jones and U. S. Department of the Interior, *Geological Survey*.)
- COOPER, Dr. BYRON N., Blacksburg, Va.: 4 specimens of unusual graptolites from Virginia (180945, exchange).
- COOPER, Dr. G. ARTHUR, Washington, D. C.: 3 earthenware vessels and a spindle whorl from vicinity of Palermo, Sicily (180948).
- COOPER, Dr. G. ARTHUR, and Dr. A. R. LOEBLICH, Jr., Washington, D. C.: 66 insects and scorpions collected in Texas during the summer of 1948 by donors (180445).
- COPE, LESLIE, Roseville, Ohio: 42 etchings and 2 lithographs lent for special exhibition during February 1949 (179100, loan).
- COPE, Dr. OLIVER B. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- COPELAND, W. A., St. Paul, Minn.: 18 fresh-water mollusks from St. Paul (182018).
- CORBEN, HARRY, Washington, D. C.: 1 timber rattlesnake from southwest of Capon Bridge, W. Va. (183130).
- CORDE, Sister MARY, Maryknoll, N. Y.: 26 marine shells from Hawaiian Islands (180644).
- CORDERO, Dr. E. H., Montevideo, Uruguay: 1 lot of tubeworm mass (180296).
- CORK INSTITUTE OF AMERICA, New York, N. Y.: 100 specimens and 9 photographs illustrating production and utilization of cork bark and its products, together with a cherrywood case complete with lighting facilities (183152).
- CORNELL UNIVERSITY, New York State College of Agriculture, *Wiegand Herbarium*, Ithaca, N. Y.: 254 plants from Georgia (181232, 181838, exchange); 1 plant from Cortland County, N. Y. (181645, exchange).
- CORPORAAL, Dr. J. B., Amsterdam, Netherlands: 56 beetles representing 27 named species and varieties, including 10 paratypes (179847, exchange).
- CORY, E. N. (See under Mrs. Dixon.)
- CORYNDON MUSEUM, Nairobi, Kenya Colony, East Africa: (Through Dr. L. S. B. Leakey) Casts of mandible and facial fragment of the fossil ape *Proconsul africanus* Hopwood (180447, purchase).
- COTTER, JOHN L. (See under U. S. Department of the Interior, *National Park Service*.)
- COTTON-TEXTILE INSTITUTE, INC., New York, N. Y.: 35 cotton textiles produced by American manufacturers for the 1949 season (182166).
- COTTRELL, R. E., Houston, Pa.: 9 fragments of fossil wood from Pennsylvanian rocks in vicinity of Canonsburg, Pa. (180814).
- CRAIG, Col. MALIN, San Francisco, Calif.: Full-dress uniform coat, pair of shoulder knots, belt, and cap owned

- by Gen. Malin Craig, U. S. A., Chief of Staff, 1935-1939 (179959).
- CRANBROOK INSTITUTE OF SCIENCE, Bloomfield Hills, Mich.: 1 specimen of crystallized native copper from Central mine, Keweenaw Peninsula, Mich. (182609, exchange).
- CRANDELL, D. R. (See under Yale University.)
- CRANE, JOCELYN, New York, N. Y.: 2 crabs (180885).
- CRANE, WILBUR, Newark, N. J.: Diode vacuum tube, tubular envelope, and bayonette base (182932).
- CREASER, Prof. E. P. (See under Hofstra College.)
- CRICKMAY, Dr. COLIN. (See under Imperial Oil, Limited.)
- CROUCH, ELLIS, Manassas, Va.: (Through E. G. Laybourne) 1 hognose snake collected at fork of Occoquan River and Bull Run, Prince William County, Va. (180400).
- CUATRECASAS, Dr. J., Chicago, Ill.: 3 plants from Colombia (181313).
- CUMMING, ROBERT B., Jr., Lincoln, Nebr. (See under Smithsonian Institution, *Bureau of American Ethnology, River Basin Surveys.*)
- CURRAN, Dr. C. H. (See under American Museum of Natural History.)
- CURTIS, KARL P., Gamboa, Canal Zone: Gold-plated ornaments from shaft tombs in the vicinity of Sona, Veraguas, Panama, and 2 gold fishhooks from Río Colimerá, Colombia (181570); skull of 1 tapir from Panama (181943).
- DAGG, H. M., Seattle, Wash.: 2 yucca-fiber sandals from a cave 20 miles from Morenci, Greenlee County, Ariz. (181358).
- DAHLGREEN, CHARLES W., Oak Park, Ill.: 3 etchings—"Self Portrait" and "Baigneuse" by Anders Zorn and "Promenade du Dimanche (Crève-cœur)" by Auguste Lepère (179985); 45 monotypes and 12 etchings by donor (183159).
- DAHLGREEN FUND, Smithsonian Institution: 8 serigraphs (180021); 1 cello-cut, "Pleistocene Monarchs," by Boris Margo (181318); 2 serigraphs, "Rain" by Harry Shokler and "Afternoon at Jones" by Doris Meltzer (181658); soft-ground etching, "Temoins à l'Audience," by Jean Louis Forain (182264).
- DAHLSTROM, Dr. R. (See under National Lead Co.)
- DALMAT, Dr. HERBERT T., Guatemala City, Guatemala: 24 fishes, 156 miscellaneous insects, 3 frogs, 1 lot of tadpoles, and 20 marine invertebrates from Yepocapa, Guatemala (180646); a collection of insects, spiders, mammal, snakes, lizards, frog, roundworm (181070); approximately 86 crabs (181419, 182311); 11,805 miscellaneous insects, 4 crabs, 3 lots gordiid worms and 1 lot amphibians from Guatemala (181505, 181664); approximately 270 miscellaneous insects, including some collected in the Department of Huehuetenango (183011).
- DANIEL, Brother, Medellín, Colombia: 51 plants from Colombia (183089).
- DANSBY, JOHN C., Balboa, Canal Zone: 1 section of railroad rail formerly used on the old Panama Railroad Line (182931).
- DARLINGTON, Dr. P. J. (See under Harvard University, *Museum of Comparative Zoology.*)
- DA ROCHA, Prof. DIAS, Ceará, Brazil: 7 marine invertebrates (181175).
- DART, Dr. RAYMOND A., Johannesburg, South Africa: Cast of occiput and mandible of the fossil primate *Australopithecus prometheus* (181018).
- D'ASCENZO, NICOLA G., Bala-Cynwyd, Pa.: A cut topaz colored brown by radium treatment (181237); a sapphire, step cut, 7.99 carats (181925, exchange); 1 cut stone of petalite from Southwest Africa, weighing 10.67 carats, and 13 specimens of the rough material from which the stone was cut (182665, exchange); a 3-ray pink tourmaline and 12 pieces of amblygonite from South Africa (183002, exchange).
- DAVIS, Dr. CHARLES C., Cleveland, Ohio: 3 microscope slides of copepod types (181480).
- DAVIS, Dr. DAVID E., Baltimore, Md.: 1 shrew and 1 bat from Giles County, Va. (181213).
- DAVIS, Lt. J. EL, Washington, D. C.: 4 fossil fishes from the Pleistocene sediments of Sundrastrom Ford, West Greenland, collected in summer of 1948 (182383).
- DAVIS, MARGUERITE (deceased): (Through Marion Walker) 1 medalion of Daniel Davis, 1813-1887 (182693).
- DAY, ALBERT M. (See under U. S. Department of the Interior, *Fish and Wildlife Service.*)
- DE BEAUFORT, Dr. L. F. (See under Zoological Museum, Amsterdam.)
- DEGELIUS, Dr. GUNNAR, Uppsala, Sweden: 602 lichens (180980).
- DEGRUY, INES V., New Orleans, La.: 2 color photomicrographs which received honorable mention in 1947 Photography in Science Salon—"Synthetic Resin Polymerized in Wood" and "Cotton Fiber Swelled to Show Ballooning" (181932).

- DEICHMANN, DR. ELISABETH. (See under Harvard University, *Museum of Comparative Zoology*.)
- DE LAUBENFELS, DR. M. W., Honolulu, Hawaii: 22 lots of sponges of which 12 lots are types (181951).
- DE LEÓN, Gen. ALFREDO J., Yonkers, N. Y.: (Through Mrs. Tomás Doyle) 1 skin of an anaconda from Arauca on the Colombian-Venezuelan boundary collected by Commissioner Carlos E. Sguerra (180350).
- DE SEGURA, SEÑORA CONSUELO BAZÁN, Washington, D. C.: Malla Bordada silk lace luncheon cloth made by Señora Adolfin Pizarro de Bazán, mother of donor (182336).
- DE YOUNG, MRS. LYLE, Kasson, Minn.: 1 plant from India (182679); 1 plant (182949).
- DE ZARATE Y LÓPEZ, DR. ADOLFO ORTIZ, Najera, Logrono, Spain: Approximately 750 land mollusks from Spain (181813, exchange); 330 land mollusks from Spain (182938).
- DILLARD, BETTY, Cullowhee, N. C.: 1 plant (180024).
- DIXON, MRS., Cumberland, Md.: (Through E. N. Cory) About 150 land mollusks from Cumberland (180915).
- DODGE & OLCOTT, INC., New York, N. Y.: A book entitled "The Story of an Unique Institution" (180908).
- DONALDSON, IVAN, Bonneville, Oreg.: 30 worms from the white sturgeon, Bonneville Dam, Oregon (182067, 182773).
- DOOCHIN, HERMAN, Coral Gables, Fla.: Approximately 10 shipworms from southern Florida (182905).
- DOOLITTLE, DR. ALFRED A., Washington, D. C.: 1 mollusk, 2 hermit crabs, and 11 flies from Florida (180681).
- DOTY, Prof. MAXWELL S., Evanston, Ill.: 2 lichens (181233).
- DOYLE, MRS. TOMÁS. (See under Gen. Alfredo J. De León.)
- DRAEGER, Capt. R. H., Bethesda, Md.: Approximately 30,600 marine and land shells from the Marshall Islands and Guam (174947).
- DRAKE, ROBERT J., Albuquerque, N. Mex.: 602 land and fresh-water mollusks from Kansas, Arizona, and New Mexico and Chihuahua and Coahuila, Mexico (180056, 181908); 8 land shells from Apache County, Ariz. (181541); 2 leeches from southeastern Chihuahua (182054).
- DREISBACH, R. R., Midland, Mich.: 1 wasp paratype (178631).
- DRYANDER, MRS. EDITH, Valle, Colombia: Plant from Colombia (180225).
- DUKE UNIVERSITY, Durham, N. C.: 1 plant from Tennessee (180045, exchange).
- DUNKLE, DR. DAVID H., Washington, D. C.: 4 fossil fishes (180866).
- DUPONT, JAMES M., Chatham, N. J.: 4 pieces of Miocene wood from New Jersey (180679); 1 brachiopod from Eocene of New Jersey (180740).
- DU PONT DE NEMOURS & Co., E. I., Wilmington, Del.: (Through W. N. McCawley) 6 photographic transparencies, scenes showing stage in the nylon manufacturing process (182069).
- EADS, DR. RICHARD B., Austin, Tex.: 4 fleas, including 2 types and 2 allotypes (180373, 181701).
- EASTMAN KODAK Co., Rochester, N. Y.: (Through Keith Lewis) 1 Ektachrome transparency (179877); (through Noble C. Ferguson) 10 color prints; 6 from Kodachrome transparencies and 4 from Ektachrome transparencies made by donor (180597).
- EASTON, DR. W. H. (See under University of Southern California.)
- ÉCOLE D'AGRICULTURE, Rimouski, Quebec: 97 plants (180981, exchange); 171 plants from Alaska (182604, exchange).
- EDGAR, S. ALLEN, address unknown: 1 habu snake from Okinawa received from Lt. Robert Reiman (174871).
- EDMONDSON, DR. C. H., Honolulu, T. H.: 6 wood-boring mollusks from Cavite, Luzón, P. I. (180199); 75 amphipods taken from seaweed in Kawela Bay, Oahu, T. H. (180843); approximately 53 amphipods (182040, 182991); 2 alcyonarians (182458). (See also under Bernice P. Bishop Museum.)
- EDWARDS, W. H. (See under British Government, *Department of Agriculture*.)
- EHLERS, DR. G. M., Ann Arbor, Mich.: 17 plaster casts of type and figured Devonian pelecypods from Michigan (180944).
- EIDMANN, DR. H. A., Münden, Germany: 588 ants, representing 196 forms (178011, exchange).
- ELLIOTT, Lt. Col. EWING W. (See under National Military Establishment, *Department of the Army, 8002d Hydroponic Farm Depot*.)
- ELLIOTT, ROY A., Baker, Oreg.: 1 root of the Mesozoic plant *Tempusya wesseli* Arnold from the vicinity of Baker (181842).
- ELLIS, Prof. HAZEL R., Chittenango, N. Y.: 63 plants from Manitoba (177136).
- ELWELL, MRS. JEAN, Detroit, Mich.: 60 pictorial photographs for special exhibition during September 1948 (180280, loan); 6 pictorial photographs by donor (180784).
- ELY, DR. CHARLES A., New York, N. Y.: 53 lots of marine invertebrates together with specimens of fishes, mollusks, and echinoderms (181402).
- EMERSON, DR. K. C., Stillwater, Okla.: 5 slides of insects (180907).

- EMERSON, WILLIAM K., San Diego, Calif.: Approximately 800 marine mollusks, including 15 topotype lots from California (180471, 182900, exchange); 2 mollusks from the Philippines (182835).
- ENDERS, Prof. ROBERT K., Swarthmore, Pa.: Skins and skeletons of 1 grizzly and 1 black bear from Wyoming collected during summer of 1948 (181197).
- ENGLISH, WALTER C. (deceased). (See under Mrs. Edith Keyes Benton.)
- ENTOMOLOGICAL SOCIETY OF WASHINGTON, Washington, D. C.: (Through Dr. Ashley B. Gurney) Pane of 25 60-centavo ultramarine postage stamps issued in 1948, portraying different varieties of the flora and fauna of Chile (182832).
- ERDMAN, DONALD S., Washington, D. C.: 150 marine mollusks from the state of Colima, Mexico (180420); 969 fishes and mollusks from Puerto Rico collected in September 1948 (180686); 5 sea-urchins from Puerto Rico collected in 1945 (180779).
- ESCUELA AGRÍCOLA PANAMERICANA, Tegucigalpa, Honduras: 1 plant from Honduras (180089); 67 ferns from Honduras (180101, exchange); 32 ferns from Honduras (181781); 11 grasses from Honduras (181787); 651 Central American plants (183147, exchange).
- ESIBILL, Mrs. HANNAH, Washington, D. C.: 6 specimens of miscellaneous women's apparel of last quarter of 19th century (180140).
- ESSIG, Prof. E. O., Berkeley, Calif.: 38 slides of aphids (181011).
- ESTACÃO AGRONÓMICA NACIONAL, Sacavem, Portugal: 100 grasses from Portugal (182605, exchange).
- ESTACIÓN EXPERIMENTAL AGRONÓMICA, Habana, Cuba: 3 plants from Cuba (181000).
- EVANS, Dr. ALEXANDER W., New Haven, Conn.: 81 lichens (180591, exchange).
- EVANS, HOWARD E., Ithaca, N. Y.: 10 wasps, representing 5 species (181438, exchange).
- EVERSON, WILLIAM, Berkeley, Calif.: Specimen of fine hand printing—an illustrated page from "A Privacy of Speech," a sequence of 10 poems by donor (180317).
- FAIRCHILD, Dr. G. B. (See under Gor-gas Memorial Laboratory.)
- FANG, Prof. WEN-PEL. (See under National Szechwan University.)
- FARNER, Dr. DONALD S., Pullman, Wash.: 1 aquatic beetle and 17 mollusks (179796).
- FAUST, Dr. CARLOS, Blanes, Gerona, Spain: 1 plant from Colombia (174753); 33 photographs of desert plants from Blanes (180593).
- FAVOUR, PAUL, Luray, Va.: 1 shrew and 1 fox skull from Shenandoah National Park, Virginia (181289).
- FEARNLEY, Mrs. JOHN, New York, N. Y.: 1 cultivated plant (182704).
- FEDERAL SECURITY AGENCY:
U. S. Public Health Service, Hamilton, Mont.: (Through Dr. William L. Jellison) 2 cottontail rabbits collected from Bartel Ranch, south of Chadron, Nebr. (182771); 25 flies (183017).
U. S. Public Health Service, Jacksonville, Fla.: (Through Dr. C. Thurman, Jr.) 24 specimens of mosquito material (179961).
U. S. Public Health Service, Memphis, Tenn.: 1 rock squirrel caught near Junction in Kimble County, Tex. (179921).
U. S. Public Health Service, Savannah, Ga.: Approximately 300 flies (180870).
- FEIGHT, Mrs. HORACE, Dayton, Ohio: 1 fern from Ohio (183082).
- FELL, Dr. H. B., Wellington, New Zealand: 17 insects (183007, exchange).
- FELLOWS, Lt. Comdr. and Mrs. A. T., Portsmouth, Va.: 6 Miocene fossils from York River, Va. (180285).
- FERGUSON, Dr. FREDERICK F., Seattle, Wash.: 4 microscope slides containing 5 specimens of worms (180519).
- FERGUSON, NOBLE C. (See under East-man Kodak Co.)
- FIDLAR, M. M. (See under Mountain Fuel Supply Co.)
- FINDLAY, GORDON R., Niagara Falls, Ontario: 4 specimens of carborundum and 1 of artificial perlase (180369). (See also under Norton Co.)
- FISCHTHAL, Dr. J. H., Endicott, N. Y.: Holotype of blood fluke (182303).
- FISHER, Dr. WALTER K., Pacific Grove, Calif.: 1 worm (180401); 1 echinoderm (180685); miscellaneous skeletal and other material from the collections of the late Dr. A. K. Fisher, including parts of reptile, bird, mammal, and fish skeletons, 3 human skulls, and 1 scorpion (181141).
- FLEISCHER, Dr. MICHAEL. (See under Dr. Frederick H. Pough.)
- FLINT, D. E. (See under U. S. Department of the Interior, *Geological Survey*.)
- FLINT, Dr. LEWIS H. (See under Louisiana State University.)
- FLORIDA, UNIVERSITY OF, Gainesville, Fla.: 2 grasses from Florida (181651); (through Dr. Frank N. Young) 16 beetles taken from squirrel nests in Florida by J. C. Moore (177971).

- FLORIDA SOUTHERN COLLEGE, Lakeland, Fla.: 22 plants from Florida (181539).
- FLORIDA STATE UNIVERSITY, Tallahassee, Fla.: 1 magnolia from Florida (180922, exchange).
- FORCE, CLARENCE. (See under Utah Scenic Stone Corp.)
- FOREMAN CO., INC., New York, N. Y.: A 1-yard sample of a gray rayon matalasse fabric (181918).
- FOSDYKE, GEORGE J., Los Angeles, Calif.: 16 United States unused postage stamps (180984).
- FOSTER, DR. A. O. (See under U. S. Department of Agriculture, *Bureau of Animal Industry*.)
- FOSTER, MULFORD B., Orlando, Fla.: 1 plant from Florida (180203); 9 photographs of plants from Colombia (180674); 10 plants (180703); 1 phanerogam (180765); 45 plants from Brazil (181024); 152 plants from South and Central America (181489); 66 photographs of bromeliads (182822).
- FOWLER, DR. JAMES A., Philadelphia, Pa.: 13 salamanders from Maryland and Virginia collected by donor in 1946 and 1948 (179776).
- FRANCLEMONT, JOHN G., Washington, D. C.: 93 Lepidoptera (182936).
- FRAYSER, MRS. BENJAMIN H., Norfolk, Va.: Navaho silver bracelet and Navaho silver spoon (180175).
- FRENCH GRATITUDE TRAIN, *D. C. Committee*, Washington, D. C.: (Through S. Olson) 96 samples of Jacquard narrow fabric weaving (1850-1900); 1 sample of chiffon, woven of rayon and metallic yarns; 1 hand-woven linen piece; 1 Jacquard woven picture (black and white), rayon; 1 Jacquard woven picture, tinted rayon; and 1 hand-woven wool scarf with embroidered design (182981); (through Ernestine Perry) 3 specimens of paper money of the French Revolution, and circular paper emblem commemorating the French Gratitude Train project (183162).
- FREY, DAVID G., Chapel Hill, N. C.: 130 fresh-water mollusks from North Carolina and 1 lot of insects (179975).
- FRIZZELL, DR. DON L., Rolla, Mo.: 3 rare marine pelecypods from Ecuador, topotypes (182394).
- FROST, DR. S. W., State College, Pa.: 4 flies, 2 holotypes and 2 paratypes (181378).
- FULLER, FRANK E., Bloomington, Ill.: 55 pictorial photographs for exhibit during November 1948 (180869, loan).
- FULLER, DR. HENRY S., Boston, Mass.: 3 slides of mites, larva-nymph-adult taken at Montjoly, French Guiana, May 26, 1945, off lizard sent to Dr. Fuller by Dr. E. Abonnenc of the Institut Pasteur (181452, exchange).
- GALLAGHER, DAVID, Grand Junction, Colo.: 1 specimen of pyromorphite from Broken Hill, Rhodesia (182825).
- GALLOWAY, J. C., Punta Gorda, Fla.: 3 plants from Florida (183025).
- GALTSOFF, DR. P. S. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- GARDEN, WILLIAM, Seattle, Wash.: 7 prints and tracings of west coast watercraft (181003).
- GARDNER, DR. JULIA A. (See under Dr. Kotora Hatani.)
- GARRISON, J. MEYERS, Ramsey, N. J.: 1 framed lithograph in color of Rogers locomotive "Thomas Rogers" approximately 27 by 39 inches (180510).
- GATHEMANN, MRS. ELMA H., Washington, D. C.: 3 examples of Victorian needlework made by Anna Ehlert, grandmother of donor, about 1867 (183022).
- GEMMELL, JEAN, Glen Aplin, Queensland: 6 butterflies including 1 typical, 1 rare white form, and 4 old forms (180077, exchange).
- GEORGIA, UNIVERSITY OF, Athens, Ga.: 766 plants from Georgia (180342, 180764, exchange); 29 grasses from Georgia (180082, exchange); 119 grasses from Georgia (180705, 181719).
- GEORGIA KAOLIN CO., Dry Branch, Ga.: (Through S. C. Lyons) 2 teeth of fossil sawfish from middle Eocene of Georgia (180485).
- GEORGIA STATE GAME AND FISH COMMISSION, Brunswick, Ga.: (Through Dr. John Oney) 2 shrimps and 9 crabs (180355, 181211); 18 marine invertebrates, fishes, mollusks, and an echinoderm (182065).
- GEORGETOWN UNIVERSITY, Washington, D. C.: Collection of archeological material and 51 ethnological specimens from American Indians, Eskimo, Oceania, Philippine Islands, and Europe (181344).
- GIDDINGS, D. S. (deceased): A cotton rag, possibly used as an apron, found in a cave 20 miles from Morenci, Greenlee County, Ariz., on loan since July 27, 1901 (182389).
- GILMORE, DR. RAYMOND M. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- GINÉS, Brother, Caracas, Venezuela: 121 plants from the Perijá region of Venezuela (179390); 50 plants from El Hatillo, Venezuela (180249).

- GIORGI, Prof. Ing. GIOVANNI, Rome, Italy: 93 land shells from Italy, including 3 paratypes (181198, exchange).
- GIUDICE, JOHN J., Columbia, Mo.: Approximately 25 lernaeid copepods (182989).
- GIVEN, Mrs. HELEN D., Washington, D. C.: 2 pieces of white hand-embroidery work, silk on wool, made by Miss Joanna Rockwood, about 1870 (183151).
- GLASER, JANE K., Chicago, Ill.: Color photograph by donor showing tumor masses in soft tissue of rabbit from primary bone tumor, which won honorable mention in the Color Division of the First International Photography-in-Science Competition, 1947 (180026).
- GLOCK, C. A., Lynwood, Calif.: A de Forest valve (181004).
- GOIN, Dr. COLEMAN J., Gainsville, Fla.: 1 frog from Jamaica collected in 1948, to become type specimen (181796).
- GOLDBERG, LOUIS, Norwich, Conn.: 2 pairs of metal ice skates and 1 odd skate (180130); 1 pair of ice skates with wooden bodies and long steel runners (180780).
- GONCALVES, C. R., Rio de Janeiro, Brazil: 227 ants (168756, exchange); 36 ants (180694).
- GOODNIGHT, CLARENCE J., Lafayette, Ind.: 1 crab (180829).
- GOODPASTURE, Dr. C. O. (deceased): (Through Dr. Riley D. Moore) 6 books (181073).
- GORDON, Mr. and Mrs. JOHN BENNETT, Washington, D. C.: 1 wooden kava bowl probably from Samoa and 1 colored tapa probably from Fiji (181071).
- GORGAS MEMORIAL LABORATORY, Panama City, Panama: (Through Dr. G. B. Fairchild) 7 slides of mosquito material (180985).
- GOSS, Mrs. HELENE, Louisville, Ky.: 1 beetle from Louisville (180527).
- GRAF, J. E., Washington, D. C.: 225 miscellaneous insects from the Canal Zone, collected by donor during summer of 1948 (180444).
- GRANT, Dr. U. S., Los Angeles, Calif.: (Through Dr. W. P. Woodring) 1 pelecypod paratype from Miocene of San Luis Obispo County, Calif. (181930).
- GRAVES, Mrs. E. R., Washington, D. C.: 1 yellow-bellied sapsucker (180684).
- GREEN, J. W., Easton, Pa.: 12 beetles (181035).
- GREENE, CHARLES T., Washington, D. C.: 12,000 flies containing paratypes in several families, several genera and species including a number from Europe being new to the Museum's collection (181811).
- GREGER, D. K., Fulton, Mo.: 1 crinoid from Mississippian rocks of the vicinity of St. Louis, Mo. (182464, exchange).
- GREGG, Mrs. C. R., St. Charles, Ill.: 1 pair of fur slippers brought from Russia about 1892 by donor's father (164257).
- GREGG, Dr. ROBERT E., Boulder, Colo.: 19 ants representing 5 species (180071, exchange).
- GREGG, Dr. WENDELL O., Los Angeles, Calif.: 112 land shells from California, Oregon, Utah, and Wyoming (180789, 181853).
- GREY, Rev. JOHN, Charlottesville, Va.: 1 wren and 1 shrike (183144).
- GUGGENHEIM FOUNDATION, THE DANIEL AND FLORENCE, New York, N. Y.: Robert H. Goddard rocket for exhibit March 21 to June 30, 1949 (182608, loan).
- GUIMARAES, Dr. LINDOLPHO R., São Paulo, Brazil: 14 insects (180374, exchange).
- GULLION, GORDON W., Eugene, Oreg.: 7 nematodes and 27 insect larvae (179797).
- GUNNELL, E. M., Denver, Colo.: 2 minerals—rickardite from Good Hope mine, Vulcan, Gunnison County, and melonite (?) from Boulder County, both in Colorado (181443, exchange).
- GUNTER, GORDON. (See under University of Texas.)
- GURNEY, Dr. ASHLEY B., Washington, D. C.: A collection of miscellaneous insects collected by donor in New York and Massachusetts (180164); 1,243 insects, mostly grasshoppers, collected by J. M. Schunke in Peru and purchased by donor (180489). (See also under Entomological Society of Washington.)
- HAAS, Dr. OTTO. (See under American Museum of Natural History.)
- HABEEB, Dr. HERBERT, Grand Falls, New Brunswick: 28 lichens from New Brunswick, Canada (181656).
- HADLEY, Mrs. F. K., West Newton, Mass.: Approximately 100 mollusks (181862); approximately 1,000 miscellaneous mollusks (183190, exchange).
- HALL, DAVID G., Washington, D. C.: 377 insects, chiefly Diptera, from Britain and the Pacific Islands (181377); 795 flies collected by Dr. C. H. T. Townsend in southern Brazil (181704).
- HALLSTROM, E. J. L., Sydney, New South Wales: 1 bird (181826).

- HANSEN, DR. MERLE F., Lexington, Ky.: Holotype of cestode from Lincoln, Nebr. (180958).
- HARBOR, D. R., Auburn, Ala.: 6 plants from Alabama (179840).
- HARDY, DR. D. ELMO, Ames, Iowa: 57 flies, including 1 holotype and 14 paratypes of 8 species and 42 paratypes of another species (180165); 4 flies, including type, allotype, and 2 paratypes (181563); 2 flies from Australia (183163). (See also under California Academy of Sciences.)
- HARNER, JOE, Nevada, Mo.: Pyritized teeth preserved in part and counterpart of a shark from the Pennsylvanian Cherokee shale formation, Walker, Vernon County, Mo. (182856).
- HARPER, DR. FRANCIS, Mount Holly, N. J.: 29 plants from Keewatin (182719).
- HARRY, ROBERT R. (See under Stanford University, *Natural History Museum*.)
- HARTMAN, DR. OLGA, Los Angeles, Calif.: 2 polychaete worms (180795).
- HARVARD UNIVERSITY:
Arnold Arboretum, Jamaica Plain, Mass.: 2 plants from China (178857, exchange); 3 grasses and 84 lichens from the Fiji Islands (179779, 180309, exchange); 2,298 plants from Fiji Islands collected by Dr. A. C. Smith (180223, exchange); 1 plant (180438, exchange); 36 fragments of South American plants collected by Steyermark and Cuatrecasas (180606); 411 plants from Micronesia and 39 grasses from Truk and Yap Islands, collected by C. Wong (181163, 181829, exchange); 116 ferns from San José Island, Gulf of Panama (182456); 2 fragments of Philippine plants (182672); 19 fungi from Truk and Yap Islands (182698, exchange).
Biological Laboratories, Cambridge, Mass.: (Through William L. Brown, Jr.) 7 ants representing 4 species (180372, exchange).
- Gray Herbarium*, Cambridge, Mass.: 14 fragmentary plants (177560, exchange); 4 plants including 1 isotype (180381, 180437, exchange); 1 fern from Argentina (180592, exchange); 15 miscellaneous South American plants (181490); 628 plants—412 Mexican specimens collected by Dr. H. E. Moore, 100 Alaskan specimens collected by Miss Edith Scamman, 58 South American bromeliads, and 58 Argentine ferns (181603, exchange); 7 phanerogams from Peru (182157, exchange).
- Museum of Comparative Zoology*, Cambridge, Mass.: 15 mollusks (181074, exchange); 5 beetles, all paratypes (182890, exchange); (through William J. Clench) approximately 5,550 specimens and 29 lots of miscellaneous mollusks (179976, 180873, 181709, exchange); 27 paratypes of a snail from the Marianas Islands (182618); (through William L. Brown, Jr.) 1 ant (181069); 48 ants, including cotypes of 9 species (181594, 182076, exchange); (through Dr. P. J. Darlington) 1 beetle from Jaronú, Cuba (181506); (through Dr. Elisabeth Deichmann) 1 alcyonarian (182138); (through William C. Schroeder) 1 fish collected off southern Massachusetts, November 1948 (182327); 1 fish holotype from Williamson Pass, Calif. (182496, exchange).
- HASKINS, C. P., New York, N. Y.: 34 Australian bulldog ants, including 7 species, and 8 chalcid parasites, including 2 species (179966).
- HATAI, DR. KOTORA, Sendai, Japan: 1 Recent and 20 Tertiary echinoids from Japan (182378); (through Dr. Julia Gardner) 5 Permian brachiopods from Japan (182379).
- HATSCHBACH, DR. GERT, Curitiba, Paraná, Brazil: 78 Brazilian plants (181596, 182743).
- HAUKE, HAROLD A. (See under U. S. Department of Agriculture, *Bureau of Entomology and Plant Quarantine*.)
- HAWAII, UNIVERSITY OF, Honolulu, T. H.: (Through Dr. Robert W. Hiatt) 3 lots of sponges (180055); (through Dr. F. G. Holdaway) 57 flies (178003); 13 plants from Hawaii (180059, exchange).
- HAWAII BOARD OF AGRICULTURE AND FORESTRY, Honolulu, T. H.: (Through Vernon Brock) 60 fishes from Johnson Island, collected in May and July 1948 by Vernon Brock, J. Francis, and J. Welsh (181028).
- HAWAII SUGAR PLANTERS' ASSOCIATION, Honolulu, T. H.: (Through E. C. Zimmerman) 23 Hymenoptera representing 14 genera, 3 of which are paratypes (181567).
- HAWK, ROBERT M., Denver, Colo.: 4 specimens of jade from Long Creek Jade mine, Lander, Wyo. (180983).
- HEDGPETH, JOEL W., Port Aransas, Tex.: 36 shrimps and 12 crabs (179561); 33 marine mollusks from Texas and Louisiana (179681); 7 marine invertebrates, including crab, anomuran, and shrimp (181121).

- HEIZER, DR. ROBERT F., Berkeley, Calif.: Chipped artifacts and quarry rejectage collected on surface at the Borax Lake site near Clear Lake, Lake County, Calif., in June 1944 (181507).
- HELLER, HELEN WEST, New York, N. Y.: 35 wood engravings for special exhibition during April 1949 (182385, loan); 8 wood engravings: "Baseball," "Millenniums," "Alabama Biochemist," "Companioned," "Nocturna," and "American Soil Triptych: 'Cotton Picking,' 'Reforestation,' 'Corn Husking'" (182887).
- HERMANN, DR. F. J., Berwyn, Md.: 3 plants from California (180341); 1 plant from Guatemala (180440); 3 plants from Central America, including isotypes and 3 photographs of Central American plants (182881).
- HERRERA, Prof. José, Santiago, Chile: 46 miscellaneous insects from Chile (180190).
- HERZENBERG, DR. ROBERT, Oruro, Bolivia: 7 creedite specimens from Colquiri, Bolivia (180271, 180781).
- HESTER, J. P., Superior, Ariz.: 3 specimens and 2 photographs of cacti (180339).
- HEUBL, Capt. JOHN S., Fredericksburg, Va.: 3 marine invertebrates (180365).
- HEWATT, DR. WILLIS G., Forth Worth, Tex.: 2 vials of marine diatoms (182161).
- HEYWARD, MARY, Baltimore, Md.: 35 land shells from Baltimore, Md. (180771).
- HIATT, DR. ROBERT W. (See under University of Hawaii.)
- HIBBEN, DR. FRANK C. (See under University of New Mexico.)
- HILDEBRAND, DR. SAMUEL F. (See under Otis Barton and U. S. Department of the Interior, *Fish and Wildlife Service*.)
- HILDRETH, MRS. MARGARET S. (See under Mrs. C. A. Rich.)
- HILE, THEODORE R., Washington, D. C.: A collection (62 specimens) of blacksmith's tools used by donor's father, Charles Monroe Hile (181802).
- HILL, DR. HOWARD R., Los Angeles, Calif.: Approximately 400 land and marine mollusks from western North America and Hawaiian Islands (183188, exchange).
- HINCKLEY, Prof. L. C., Alpine, Tex.: 137 plants from Texas, New Mexico, and Arizona (180658).
- HINTON, DR. HOWARD E., London, England. (See under British Government, *British Museum (Natural History)*.)
- HINTON, JAMES C., Saltillo, Mexico: 75 plants from Mexico (182016, 182947).
- HOBBS, DR. HORTON H., Jr., Charlottesville, Va.: 3 type specimens of crayfishes (181360).
- HODGE, Lt. Gen. JOHN R. (See under Ju Whan Lee.)
- HOFF, DR. C. CLAYTON, Albuquerque, N. Mex.: 6 ticks taken from a local ground squirrel in New Mexico and 1 vial of roundworms (181122); approximately 10 ostracods and 3 microscope slides (182233).
- HOFFMAN, RICHARD L., Clifton Forge, Va.: 291 amphibians and reptiles from Virginia and North Carolina (180010): 1 diplopod, holotype, from Yaetake, Okinawa, collected by F. N. Young on October 8, 1945 (181450).
- HOFSTRA COLLEGE, Hempstead, Long Island, N. Y.: (Through Prof. E. P. Creaser) About 35 phyllophods (179906).
- HOLDAWAY, DR. F. G. (See under University of Hawaii.)
- HOLLIS, V. P., St. Paul, Minn.: 1 photomicrograph of section of plant louse and leaf (180555).
- HOLLISTER, HAL L., and ROBERT E. MINTURN, Corvallis, Ore.: A 2-headed garter snake from Port Angeles, Wash., collected by Robert E. Minturn on September 6, 1948 (180402).
- HOLM, DR. A. (See under Zoologiska Institutionen.)
- HOLMBERG, ALLEN, Ithaca, N. Y.: 5 lizards collected by donor in Virú Valley, Peru, in April 1948 (180236).
- HOLTHUIS, DR. L. B., Leiden, Netherlands: 10 shrimps (180665).
- HOOVER, ROBERT, Berkeley, Calif.: 6 grasses from California (180091).
- HORN, CHESTER K., Richmond, Calif.: (Through Dr. D. H. Johnson) 1 sea-snake collected by donor in June 1944 off Sarmi Point, north coast of Dutch New Guinea (181798).
- HORTON, BRYSON D. (deceased): Artifacts found in a cave 20 miles from Morenci, Greenlee County, Ariz., in 1900, on loan since 1901 (182390).
- HOSAKA, EDWARD Y., Kamuela T. H.: 1 grass from Hawaii (181688); 1 grass from New Caledonia (182999).
- HOSEA, MRS. H. R., Washington, D. C.: Bonnet made of tan cotton in early 19th-century style known as a "calash" (181580).
- HOTCHKISS, NEIL. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- HOTTES, DR. F. C., Grand Junction, Colo.: 29 slides of aphids, including 4 holotypes (183008).
- HOUSHOLDER, VIC H., Phoenix, Ariz.: 1 skull of a brown-eared bulbul (182853).
- HOWE, DR. D. F., Chula Vista, Calif.: 17 plants from California (181406).

- HUBBELL, Dr. T. H. (See under University of Michigan.)
- HUBBRIGHT, LESLIE, Danville, Va.: Approximately 800 mollusks from Michigan and Virginia (180389); about 150 land mollusks from Virginia (182941).
- HUCKETT, Dr. H. C., Long Island, N. Y.: 6 flies, including 3 allotypes and 3 types (182691).
- HUFFMAN, EARL C., Pasadena, Calif.: 33 snails from Tillamook County, Oreg. (181855).
- HUGHES, Prof. R. CHESTER, Stillwater, Okla.: 7 microscope slides bearing cotype material of a new species of tapeworm (182861).
- HUME, Brig. Gen. EDGAR E., Washington, D. C.: Broken vessel (to be restored) from the necropolis at Paestum, Italy (181608, deposit).
- HUMES, Dr. ARTHUR G., Boston, Mass.: 70 copepods, including types (180963).
- HUMM, Dr. HAROLD J., Beaufort, N. C.: 1 crustacean (172864); approximately 47 crustaceans and 2 mollusks (181786); 4 vials of amphipods from Newfoundland and Florida (182137).
- HUMPHREY, FRED L., Reno, Nev.: 185 assorted invertebrate fossils from White Pine District, Nev. (180431).
- HUNGERFORD, Dr. H. B., Lawrence, Kans.: 126 bugs, including types (177756).
- HUNTER, BYRON, San Jose, Calif.: 1 hand-woven, double-weave, Jacquard coverlet, grape pattern with giraffe border (181280).
- HUNTER, Lt. Col. GEORGE W., 3d, San Francisco, Calif.: Approximately 150 land mollusks from Shikoku Islands, Japan, collected by Hisasho Abe (183174). (See also under National Military Establishment, *Department of the Army, Medical Department Research and Graduate School.*)
- HURD, PAUL D. (See under University of California.)
- HURLBURT, Dr. C. S., Jr., Cambridge, Mass.: A specimen of parahilgardite from Choctaw Salt Dome, Iberville Parish, La. (181699, exchange).
- HURLBURT, Commander H. S., Bethesda, Md.: 84 pinned specimens and 104 slides of 6 species of mosquitoes, 3 of them new with holotypes, from Ponape, Caroline Islands, collected by donor (180558).
- HUTCHINS, Dr. LOUIS W. (See under Woods Hole Oceanographic Institution.)
- HYDE, F. B., Chevy Chase, Md.: Hand-woven blanket obtained by donor in 1912 at Wakarewarewa, near Rutarua, North Island, New Zealand, from its former owner, the great-great-granddaughter of a Maori chief (180469).
- IDAHO STATE COLLEGE, Pocatello, Idaho: 40 plants from Yellowstone Park (183087, exchange).
- ILG, C. L. (See under Weston Electrical Instrument Corp.)
- IMPERIAL COLLEGE OF TROPICAL AGRICULTURE, Trinidad, West Indies: (Through Dr. E. McC. Callan) 63 scorpions from Trinidad (179666).
- IMPERIAL OIL, LIMITED, Calgary, Alberta: (Through Dr. Colin Crickmay) 2 Devonian brachiopods from Alberta, Canada (181168).
- INDIA, GEOLOGICAL SURVEY OF, Calcutta, India: 13 specimens of ores from India (179920, exchange).
- INGERSON, Dr. EARL, Washington, D. C.: 50 echinoids, echinoid spines, and other invertebrate fossils from the Cretaceous of west Texas (181112). (See also under J. B. Carson.)
- INGLES, Dr. LOYD G., Fresno, Calif.: 2 flies (179559).
- INIGO, FELIX. (See under U. S. Department of the Interior, *Fish and Wildlife Service.*)
- INNES, WILLIAM T., Philadelphia, Pa.: 1 fish from South America (181909).
- INSTITUT DES RECHERCHES AGRONOMIQUES, Saigon, French Indo-China: 156 plants from Indo-China (182880).
- INSTITUT PASTEUR, Cayenne, French Guiana: (Through Le Médecin Capitaine Camain R.) 25 flies and mosquitoes, representing 22 species of which 20 are new to the national collections (180166).
- INSTITUTE GEOBIOLÓGICO LA SALLE, Canaões, Rio Grande do Sul, Brazil: 77 plants from Brazil (182996, exchange).
- INSTITUTE OF INTER-AMERICAN AFFAIRS, Lima, Peru: 58 plants from Peru (179838, 180095, transfer); 78 grasses and 1 phanerogam from Peru (181246, 181947, transfer).
- INSTITUTE OF JAMAICA, *Science Museum*, Kingston, Jamaica: (Through Mrs. Amy Von der Porten) 14 ferns from Jamaica (182038).
- INSTITUTO DE BOTANICO, São Paulo, Brazil: 9 plants (180311, 183084).
- INSTITUTO DE BOTÁNICA DARWINIÓN, San Isidro, Argentina: 25 plants from Argentina (181314).
- INSTITUTO DE SANIDAD VEGETAL, Buenos Aires, Argentina: 9 grasshoppers of 4 species from Argentina (180419); (Through Dr. José Liebermann) 16 grasshoppers, comprising 6 species from Argentina (179972, exchange).
- INSTITUTO MIGUEL LILLO, Tucumán, Argentina: 439 grasses from Argentina and Chile (179781, 179929).

INSTITUTO REGIONMONTANO, Monterrey, Nuevo León, Mexico: 103 plants from Mexico (181404).

INTERIOR, U. S. DEPARTMENT OF THE:

Fish and Wildlife Service, Washington, D. C.: 458 pairs of baleen blades from Japanese Antarctic whaling expeditions in 1946-47 and 1947-48 (179601); 1,046 birds from various parts of North America (179826); 2 bird bones (180220); 2 sets of eggs from Georgia (180590); 2 skeletons of trumpeter swan (182079); 1,772 birds from various parts of North America (183081); 306 mammals (183185); (through Dr. Raymond M. Gilmore) 37 amphipods (stomach contents discarded), 5 beaks of squids and 8 ascarid nematodes from digestive tract of sperm whale from off Eureka, Calif. (179794); fish bones from sperm whale stomach taken by Dr. Gilmore 4 or 5 miles west of Eureka, Calif., in 500 fathoms, August 30, 1947 (181496); (through Dr. P. S. Galtsoff) 62 crustaceans, 2 fishes, 4 echinoderms, and 14 coelenterates (179817); (through Dr. Eugene W. Surber) 46 crustaceans (180060); (through Dr. S. F. Hildebrand) 83 gobioid fishes collected in Puerto Rico in 1945 by Donald S. Erdman (180092); (through Dr. Oliver B. Cope) 9 amphipods (180464); (through F. M. Uhler) 6 mollusks (*Cyrenoida* sp.) from Dorchester County, Md. (181345); 78 freshwater mollusks taken from stomachs of ducks, from Iowa, Maryland, and Ontario (183013); (through Albert M. Day) 11 sponges collected by Alfredo C. Abeledo and Rizal D. Pangilinan in the area of Mindoro Island, P. I. (182136); (through Dr. Leslie W. Scattergood) 6 shrimps (182683); (through Neil Hotchkiss) 28 mosses from Utah (182692); (through Felix Iñigo) 9 fishes from Fishery Research Laboratory, Mayagüez, Puerto Rico (181693).

Geological Survey, Washington, D. C.: 1 fossil fish from the Permian Phosphoria formation about 18 miles east of Fort Hall, Idaho (179867); 3 thin sections of Foraminifera representing 4 genera and 24 specimens from Eocene of Africa and Pennsylvanian of Texas and Illinois (179984); (through Dr. Harry S. Ladd) about 1,200 marine mollusks from Caroline Islands, collected by Charles G. Johnson (180303); 1 tube of analyzed bran-

nerite from Kelly Gulch, Custer County, Idaho (180395); lower cheek tooth of a horse from tuff between basalt layers, on north side of Gable Mountain near White Bluffs, Benton County, Wash., collected by Garald G. Parker and Manuel G. Bonilla (180943); 266 specimens of trona, shortite, and searlesite from mine shaft of the Westvaco Chemical Corp. west of Green River, Sweetwater County, Wyo. (181047); 3 Devonian fossils from Sawtooth Range, Mont., 23 Triassic brachiopods from Nevada, 1,000 Ordovician brachiopods and other fossils, 50 Devonian and Mississippian plants, 1,000 Ozarkian and Canadian cephalopods (181142); 21 brachiopods and 30 graptolites from the Ordovician of Clevenger Quadrangle, Tenn. (181217); 71 specimens of helvite, tactite, scheelite-bearing rocks, and thin sections from Iron Mountain, N. Mex. (181283); 1 block of Genudewah limestone containing fossil conodonts (181284); 3,400 types, figured specimens, and examples of fossils described in manuscript entitled "The Larger Invertebrate Fossils of the Woodbine Formation (Cenomanian) of Texas" by Dr. Lloyd William Stephenson (181398); 16 gastropods from the Early Ordovician of Missouri and Tennessee (181498); 29 miscellaneous foreign and American Tertiary nautiloids studied by Prof. A. K. Miller (181499); 150 types and figured specimens from the Redwater shale (Upper Jurassic) of South Dakota collected by Drs. R. W. Imlay and A. R. Loeblich, Jr. (181694); 382 specimens of conodonts collected by Wilbert H. Hass, from central mineral region (Llano uplift), Texas (182171); 6 fossils (182328); 25 Tertiary plants (182332); 4 brachiopods from the Mississippian rocks of Illinois (182377); 12 Upper Cretaceous invertebrate fossils from Georgia collected by William A. Rowell, Jr., Dr. Louis L. Ray in charge of field work (182685); 30 fossil insects, probably of late Tertiary age, from Utah, collected by Dr. J. Stewart Williams (183695); 200 specimens of a cephalopod genus from the Upper Cretaceous of South Carolina, North Carolina, New Jersey, South Dakota, Iowa, and Montana (182828); a series of 19 iron-ore specimens from Alabama, Arizona,

Arkansas, and other localities of the United States (182857); 550 Paleozoic invertebrate fossils from California, Montana, and Colorado (182884); 26 Foraminifera from Jurassic beds in the J. H. Kline No. 1 well southeast of Carpio, Ward County, N. Dak. (182885); approximately 568 miscellaneous invertebrates from the Marianas Islands, together with echinoderms, plants, fishes, reptiles, mollusks, insects (182918); (through Dr. John B. Reeside, Jr.) 36 specimens including mammalian forms, horse and mastodon teeth, and fossil fishes, collected from the Pliocene and Pleistocene of Florida by F. Stearns MacNeil (179955); 2 specimens of fossil vertebrates collected by L. A. Thomas from Oligocene beds in vicinity of Sage Creek, Beaverhead County, Mont. (180689); 3 mosasaur specimens, remains of a turtle, and 19 fish specimens collected by Messrs. Crandell, Hensley, and Simpson (180867); 1 lot of Comanche material said to contain Foraminifera from the east side of East Etholen Knob southwest of Etholen Station, Sierra Blanca Quadrangle, Tex. (181111); *Phytosaur* skeleton from the Triassic Chinle formation in the vicinity of St. Johns, Ariz., collected by Guy E. Hazen, October 28, 1948 (181367); collection of 5 bison bones, 1 camel bone, and a prairie-dog jaw from Pleistocene deposits in the City of Denver, and 1 lower tooth of a horse from Madison Valley, Mont. (181926); 2 horse teeth collected by F. S. Jensen, July 14, 1948, in Valley County, Mont. (182074); approximately 150 sharks' teeth from the Upper Cretaceous Eagle Ford shale and Austin chalk of Grayson County, Tex., collected in 1946 by Harland R. Bergquist (182083); 150 Paleozoic invertebrate fossils collected by John C. Maher in the eastern foothills of the Front Range, Colo. (182610); (through Smithsonian Institution, Bureau of American Ethnology) skull of Eskimo, from bank of Utukok River, near mouth of Elusive Creek, Alaska (about lat. 69°30' N., long. 160° W.), accompanied by one lot of archeological material (180564); (through Drs. William T. Pecora and T. S. Lovering) 10 tinctite specimens from the Tintic District, Utah (180894); (through Dr. Josiah

Bridge) 3 lots of fossil Foraminifera from the Marianas Islands, Southwest Pacific (181065); (through Dr. C. Wythe Cooke) 11 specimens and 3 plaster casts of echinoids from the Cretaceous of Peru (181008); (through Dr. James Steele Williams) 1 specimen of *Helicoprion* and associated teeth, collected by Dr. M. I. Goldman from Bennett's Ranch, Dagget County, Utah (181119); 7 fossil fishes (182073); (through Dr. Roland W. Brown) 6 Tertiary plant fossils from Japan (181169); (through Dr. E. T. McKnight) 3 Ordovician graptolites from Stevens County, Wash. (181170); (through M. G. White) 22 fishes from mouth of Sunagun Creek on Porcupine River at Boundary, Alaska-Yukon, collected by donor, August 1948 (181441); (through F. Stearns MacNeil) about 70 marine mollusks from Okinawa (182902); (through D. E. Flint) 14 marine and land mollusks from Okinawa (182903); (through Dr. W. P. Woodring) 25 land mollusks from Panama (182904).

National Park Service: 246 plants from Tupelo, Miss. (179937, 181403); foot bones and other remains of Pleistocene ground sloth from the Carlsbad Caverns, Carlsbad, N. Mex. (178746); 22 lichens from Tulelake, Calif. (180310); 5 lichens from Glacier County, Mont. (180833); 3 lichens from Yosemite National Park, Calif. (180835); 3 lichens from the Great Smoky Mountains National Park, Gatlinburg, Tenn. (180842); 26 plants from Maryland (180891); 1 lichen from Petrified Forest National Monument, Holbrook, Ariz. (181234); 498 plants from the Mammoth Cave National Park, Ky. (181300, 181628); 22 plants from Shenandoah National Park, Luray, Va. (181409); 68 plants from Campe Verde, Ariz. (182344); 1 lichen from Aztec, N. Mex. (183083); (through John L. Cotter 16 freshwater mollusks from Rynum Village site, near Houston, Miss. (180181).

IOWA, UNIVERSITY OF, Iowa City, Iowa: 1 grass from Canal Zone (181801).

IOWA STATE COLLEGE, Ames, Iowa: 39 grasses from Alaska (181751); 206 plants from Alaska and British Columbia (182823, exchange).

IRVING, F. N., Washington, D. C.: 2 ferns (182701).

- IRVING, DR. LAURENCE. (See under National Military Establishment, *Department of the Navy, Office of Naval Research.*)
- ISAACS, MRS. WILLARD L., Summit, N. J.: One of the first incandescent lamps made by Thomas A. Edison incorporating a carbonized bamboo filament, about 1880 (182259).
- ISELEY, DR. DUANE, Ames, Iowa: 50 plants (182408, exchange).
- ISIDORO, DONATO G., Virac, Catanduanes, Philippine Islands: 89 land and freshwater shells from Catanduanes (142274).
- IVES, Prof. J. D. (See under Carson-Newman College.)
- JACOBSON, MORRIS K., Rockaway, N. Y.: 2 paratypes of a land mollusk from Cuba (180321).
- JAMES, DR. MAURICE T., Pullman, Wash.: 6 flies, 4 species, 1 of which is represented by 2 paratypes (179488). (See also under British Government, *Commonwealth Institute of Entomology.*)
- JAMESON, DR. E. W. (See under University of California.)
- JANSEN, D. C. (See under Shanghai Museum.)
- JARDIM BOTANICO, Rio de Janeiro, Brazil: 21 Brazilian ferns (181105, exchange.)
- JARDIN BOTÁNICO, Asunción, Paraguay: 58 grasses from Paraguay (183000).
- JARVIS, WILLIAM S., Takoma Park, Md.: Small earthenware bowl from Oaxaca, Oaxaca, Mexico (181850).
- JEFFRIES, FRANK L., Washington, D. C.: 140 land and fresh-water mollusks from North America (182943).
- JELLISON, DR. W. L., Hamilton, Mont.: Approximately 40 beetles collected by donor in Montana (180467). (See also under Federal Security Agency, *U. S. Public Health Service.*)
- JIMÉNEZ, DR. JOSÉ DE JS., Santiago, Dominican Republic: 110 plants from Dominican Republic (181385).
- JOHNSON, DR. D. H. (See under Chester K. Horn.)
- JOHNSON, DR. GEORGE R., Calgary, Alberta: 1 fungus from Canada (180971).
- JOHNSON, KENNETH S. (See under AnSCO.)
- JOHNSTON, FRANCIS NEWLANDS, Chevy Chase, Md.: 81 Triassic ammonites and nautiloids from Nevada (181808). (See also under Dr. Friedrich Trauth.)
- JOHNSTON, FRANCIS NEWLANDS, Chevy Chase, Md., and ABEL RANSON, Calvados, France: 50 invertebrate fossils from the Jurassic and Cretaceous of France (180766).
- JONES, ALLIE L., Jr., Newton, Ala.: 1 mollusk from Newton (183014).
- JONES, MRS. L. P., Sierra Blanca, Tex.: (Through J. D. Boone and Dr. C. Wythe Cooke) 2 Cretaceous echinoids from 1½ miles north of Round Top Mountain, Triple Hill Quadrangle, Hudspeth County, Tex. (180484).
- JONES, PERCY, Washington, D. C.: 12 land and marine shells from Morotai, Netherlands East Indies, and Aruba, Netherlands West Indies (181852).
- JOY, MRS. REDMOND, Cambridge, Mass.: 113 plants from vicinity of Washington, D. C. (180090).
- JUNGE, CARLOS, Concepción, Chile: 11 marine mollusks from Chile (182772).
- KAINEN, JACOB, Washington, D. C.: 1 serigraph, "Snowfall," by donor, printed in 30 colors in the pioneer period 1939 (180104).
- KAISER, PHIL, Argonia, Kans.: (Through Arthur L. Bowsher) 2 crystals of vesuvianite from Siskiyou and Tulare Counties, Calif. (181803).
- KANSAS, UNIVERSITY OF, Lawrence, Kans.: 4 plants from Kansas (181410); (through Dr. R. H. Beamer) 4 grasshoppers (175597); 12 bugs, 11 paratypes (180556, 180950).
- KAPUR, A. P., London, England: 40 named beetles, representing 11 species in 8 genera, all from India (177874).
- KARLOVIC, JOHN K., Benton Harbor, Mich.: 9 insects (179661).
- KARTMAN, DR. LEO, JR., Honolulu, Hawaii: 5 slides of fleas of a species new to the Museum's collection (180129).
- KAYE, FRANK B., Arlington, Va.: 1 Marcy's Sciopticon Magic Lantern (J. Marcy Patents—April 28, 1868, and July 6, 1869) and 5 glass lantern slides of various subjects (182263).
- KEEGAN, Lt. H. L. (See under National Military Establishment, *Department of the Army, Armed Services Institute of Pathology.*)
- KEEN, DR. MYRA. (See under Stanford University.)
- KELLY, GEORGE, Solomons, Md.: 3 bottles of marine diatom specimens (182160).
- KEMPER, ROY H., San Bernardino, Calif.: 1 automobile-theft signal made by Security Manufacturing Co., Los Angeles, Calif., patented August 25, 1914 (182260).
- KENNISON, H., Minneapolis, Minn.: 16th-century glazed terra-cotta roof tile obtained by donor's father, W. F. Kennison, from the house of Don Diego Columbus at Ciudad Trujillo, Dominican Republic (180375).

- KILLIP, E. P.**, Washington, D. C.: 285 plants collected by the late Guillermo Klug in Peru (181987); 89 plants from southeastern Virginia (183026).
- KILTZ, B. F.**, Barksdale Field, La.: 4 plants from Arizona (180399).
- KING, DR. RALPH H.**, Wichita Falls, Tex.: (Through Dr. A. K. Miller) 3 type ammonoids from the Finis shale of north-central Texas (182331).
- KINNARD, WOLCOTT.** (See under Kinnard Co.)
- KINNARD CO., Milwaukee, Wis.:** (Through Wolcott Kinnard) 1 Spot-O-Matic enlarging meter made by donor (180027).
- KIRBY, Prof. HAROLD.** (See under University of California.)
- KIRN, ALBERT J.**, Somerset, Tex.: 27 fresh-water mussels from Texas (180790).
- KISSLEFF, M. Z.**, Philadelphia, Pa.: A collection of 13 minerals consisting of ludlamite, epidesmianite, clinchlore, etc., from New Hampshire, Pennsylvania, and Canada (182168, exchange).
- KLAPPERICH, DR. HANS,** Bonn, Germany: 119 beetles, representing 36 species and subspecies mostly new to the Museum's collection, and 22 undetermined specimens (182613, exchange).
- KNIGHT, DR. J. BROOKES.** (See under Daniel Koivro.)
- KNOWLES, GEORGE M.**, South Miami, Fla.: A collection of lizards from Cuba and Florida, collected in 1948 (182009).
- KNOWLTON, DR. G. F.** (See under Utah State Agricultural College.)
- KNULL, Prof. J. N.** (See under Ohio State University.)
- KNUTSEN, WILLIE,** Rockport, Mass.: (Through Dr. Henry B. Collins, Jr.) Eskimo artifacts, mostly of Dorset type, from Nain, Labrador, and Baffin Island, Canada (183098).
- KOCH, H. J.**, Johannesburg, South Africa: 7 rare deep-water marine mollusks from South Africa (180040).
- KOCI, F. J.**, Alexandria, Va.: 1 direct-current electric motor manufactured about 1900 (181979).
- KOIVRO, DANIEL,** Sarasota, Fla.: (Through Dr. J. Brookes Knight) 23 marine mollusks from Longboat Key, Fla. (182939).
- KOMAREK, E. V.**, Thomasville, Ga.: 1 insect collected on the dunes east of Albany, Ga. (180528).
- KORN, Mrs. ARTHUR,** Hoboken, N. J.: 8 specimens of photographic wireless transmission by the Arthur Korn process and 1 sketch of Dr. Korn, the inventor (183161).
- KRAHE, E. W.**, Washington, D. C.: 1 young mockingbird (179861).
- KRAUSS, N. L. H.**, Honolulu, Hawaii: Approximately 820 miscellaneous insects and 1 isopod collected in Malaya and Hong Kong (182316); 226 insects, mostly from Panama (180693).
- KRIEGER, H. W.**, Washington, D. C.: 2 human figurine wood carvings from the Bush Negroes of Surinam (183167).
- KRITZLER, HENRY,** Marineland, Fla.: Skeleton and complete fetus of pigmy sperm whale skeleton beached near Marineland, Fla. (180854).
- KRUFSAW, N.**, Washington, D. C.: 1 European peacock butterfly found in a drawer of a chest imported from Haslemere 20 miles from London, England (181561).
- KRYGER, DR. J. P.**, Flintinge, Denmark: About 206 beetles in stages from pupa to adult, representing 11 species, from Denmark (179878).
- KUHNELT, DR. WILHELM,** Wien, Austria: Approximately 500 land and fresh-water mollusks from central Europe (183171, exchange).
- KUMM, DR. HENRY W.**, Rio de Janeiro, Brazil: 1 fox, 1 raccoon, 1 coatimundi, 5 armadillos from Minas Gerais, 1 agouti from Rio de Janeiro, and 1 agouti from Goyaz, all Brazil (180680). (See also under Rockefeller Foundation.)
- KUSCHEL, P. GUILLERMO,** Santiago, Chile: 14 beetles (181117, exchange).
- KYUSHU UNIVERSITY,** Fukuoka, Japan: (Through Dr. Keizo Yasumatsu) 62 ants, representing 14 species, 4 bees and wasps, 3 of which are paratypes (180215, exchange).
- LACASSE, MAJ. WALTER J.**, San Francisco, Calif.: 512 mosquitoes including 237 adults of 26 species (2 syntypes) and 275 larvae of 29 species, all from Japan and Korea (179964); 5 insects (mosquito material) (182174).
- LACEY, LIONEL,** New Rochelle, N. Y.: 469 beetles (181285).
- LADD, DR. HARRY S.** (See under Department of the Interior, *Geological Survey.*)
- LAENEN, J.**, La Chiffu, Algeria: 5 birdskins from Algeria (180929).
- LANGE, DR. W. HARRY,** Davis, Calif.: 86 land mollusks from Saipan Island, Marianas (179980).
- LANGFORD, DANIEL B.**, Honolulu, Hawaii: About 700 miscellaneous insects from Ailinglapalap Atoll, Marshall Islands, November 10-26, 1948 (181566).
- LANGMAN, IDA K.**, Mexico, D. F.: 41 phanerogams from Mexico (182493).

- LA RIVERS, DR. IRA, Reno, Nev.: 1 paratype and two topotype insects from Nevada (181848); 2 paratypes of aquatic bugs (182893).
- LARKIN, DR. P. A., Vancouver, British Columbia: 3 mysids from Lakelse Lake, British Columbia (182308).
- LASKOWITZ, I. B., Brooklyn, N. Y.: Model of a balanced variable delivery pump or blower of donor's invention (183155).
- LATHAM, ROY, Long Island, N. Y.: 1 lichen from Long Island (181332); 12 amphipods and 5 parasitic worms (182348); 1 starfish (182376); 16 insects from Long Island (182677).
- LATHAM, DR. V. A., Chicago, Ill.: 2 diatoms from Utah (?) and California (182162).
- LAUDON, DR. R. L., Madison, Wis., and ARTHUR L. BOWSHER, Washington, D. C.: 3 fossil crinoids (180230).
- LAYBOURNE, E. G. (See under Ellis Crouch.)
- LEAKEY, DR. L. S. B. (See under Coryndon Museum.)
- LEANZA, DR. A. F. (See under Museo de la Plata.)
- LEE, HAROLD, Seattle, Wash.: Prints of 19 drawings of west coast watercraft designed by donor, 1900 to 1920 (181002, purchase).
- LEE, JU WHAN, Seoul, Korea: (Through Lt. Gen. John R. Hodge) 1 stone musical instrument, a *kyung*, made in Korea in A. D. 1484 (179988).
- LEECH, A. Y., Jr. (See under U. S. Ordnance Co.)
- LEECH, GORDON, Washington, D. C.: (Through C. R. Aschmeier) 3 bear skulls collected in Jackson, Wis., November 2, 1948 (181287).
- LEECH, HUGH B. (See under California Academy of Sciences.)
- LEITE, FATHER J. EUGENIO, Nova Friburgo, Brazil: 37 plants from Brazil (180052, 182492); 14 Brazilian plants (181647, exchange and gift).
- LENDON, ALAN, Adelaide, South Australia: 1 Naretha parrot from Australia (182235).
- LEÓN, Brother, Vedado-Habana, Cuba: 30 phanerogams (181974, exchange).
- LEONARDI, MODESTO, Trona, Calif.: 32 hanksite specimens from Searles Lake, Calif. (179871, exchange).
- LESSER, RUDI, Washington, D. C.: "Girl," an etching, and "Ships and Harbor," a drypoint, by donor (181067).
- LEWIS, KEITH. (See under Eastman Kodak Co.)
- LEWTON, DR. FREDERICK L., Winter Park, Fla.: Campaign medal, McKinley and Hobart (181068).
- LEYVA, CARLOS J., Oaxaca, Mexico: 4 plants from Mexico (182455).
- LIBRARY OF CONGRESS, Washington D. C.: 1 lichen from New Zealand collected by Mrs. Louise McDanell Browne (180979); collection of 1,048 pieces of miscellaneous unidentified "notgeld" of Germany issued during the period of World War I—679 paper notes, 360 metal tokens, and 9 porcelain tokens (181560).
- LIEBERMANN, DR. JOSÉ. (See under Instituto de Sanidad Vegetal.)
- LILLIE, MRS. RALPH D., Chevy Chase, Md.: White cotton nightgown with trimmed collar of period of 1895 (181310).
- LINDE AIR PRODUCTS CO., New York, N. Y.: (Through J. J. Murphy) 1 synthetic star sapphire and 1 synthetic star ruby (182381).
- LINDENSCHMIDT, MARY JEAN, Ann Arbor, Mich.: 6 microscope slides representing holotype of a sponge (182916).
- LITTLE, ALFRED EL, Alexandria, Va.: 18th or 19th century miniature barrel organ made in Switzerland and long in the possession of the Revere family of Boston, Mass. (180695).
- LITTLE, DR. ELBERT L., Jr., Arlington, Va.: 15 plants from Guanajuato, Mexico (180737).
- LIVINGSTON, COL. JOHN J., Fort Belvoir, Va.: A specimen of barium-muscovite (cellacherite) from Franklin, N. J. (182497, exchange).
- LLANO, DR. GEORGE A., Washington, D. C.: 150 lichens from Panama and Canal Zone (181686).
- LOEBLICH, DR. ALFRED R., Jr. (See under Dr. G. A. Cooper.)
- LOEBLICH, MRS. ALFRED R., Jr., Washington, D. C.: 261 type and figured specimens of Lower Cretaceous Foraminifera from the Walnut formation of Texas and Oklahoma (179876).
- LOEBLICH, DR. and MRS. ALFRED R., Jr., Washington, D. C.: Approximately 2,000 invertebrate specimens from the Ordovician and Silurian of Oklahoma and 10 samples of Lower Cretaceous shales from microfossils (180678).
- LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, London, England: (Through Dr. P. A. Buxton) 37 slides of mites (180691).
- LONG, MRS. E. G., Baltimore, Md.: Sewing cabinet made in 1857 of hand-tooled and joined hardwood, provided with 12 fitted compartments and equipped with the tools of stitchery (180924).
- LOOMIS, H. F., Coconut Grove, Fla.: 5 millipeds, including 3 paratypes (181304).

- LOOSER, DR. GUALTERIO, Santiago, Chile: 4 plants from Chile (180338, 182318).
- LOUISIANA STATE UNIVERSITY, Baton Rouge, La.: 57 plants from Mexico (181137, exchange); 4 birds (181592, exchange); (through Dr. Lewis H. Flint) 1 plant from Louisiana (181466, exchange).
- LOVERING, DR. T. S. (See under U. S. Department of the Interior, *Geological Survey*.)
- LOWER, GEORGE G., Westtown, Pa.: 3 copepods and 1 cephalopod (182452).
- LOWRY, MRS. MARY DUDLEY, Washington, D. C.: 18 ethnological specimens from Island of Meli, New Hebrides, 1 Maori stone-ax blade from New Zealand, 4 necklaces from Cook Islands, and collection of mollusks from New Hebrides collected during 1942-43 by donor (180560).
- LUNDELL, DR. C. L. (See under Southern Methodist University.)
- LUNZ, G. ROBERT, JR., Wadmalaw Island, S. C.: 1 shrimp (182451).
- LYMAN, FRANK B., Lantana, Fla.: Collection of marine organisms comprising crabs, fishes, mollusks, and echinoderms (178541); 1 mollusk from Molasses Reef, Fla. (180198); 1 hermit crab and mollusk eggs (180353); 8 marine invertebrates and specimens of algae, mollusks, echinoderms (180457); (through F. M. Bayer) 7 lots of marine mollusks from Florida and Puerto Rico (180660).
- LYNCH, RAYMOND M., Alexandria, Va.: 12 amphipods (181296).
- LYNN, MRS. DORA M., Cleveland, Ohio: 76 plants from Ohio (181216).
- LYON COUNTY SENIOR HIGH SCHOOL, Kuttawa, Ky.: (Through Dr. Thomas N. McCoy) 1 jumping mouse from Lyon County, Ky. (182144).
- LYONS, S. C. (See under Georgia Kaulin Co.)
- MAA, DR. TSING-CHAO, Taipeh, Taiwan, China: 14 insects including 9 paratypes (181756, exchange).
- MACDOWELL, MRS. MURIEL, Brooklyn, N. Y.: Print of spodogram showing the distribution of mineral ash in the rat nephron following the administration of calciferol, exhibited in the black-and-white division of First International Photography-in-Science Competition (180690).
- MACGINITIE, Prof. and Mrs. G. E., Point Barrow, Alaska: Approximately 760 marine invertebrates together with mollusks, echinoderms, fishes, and insects from California and Mexico (182767). (See also under National Military Establishment, *Department of the Navy, Office of Naval Research*.)
- MACKAY, RALPH E., Seattle, Wash.: A specimen of geocronite from the Livingston mine, Custer County, Idaho (181928, exchange).
- MACMILLAN, GORDON K. (See under Carnegie Museum.)
- MACNEIL, F. STEARNS. (See under U. S. Department of the Interior, *Geological Survey*.)
- MALOTT, CHARLES K., Los Angeles, Calif.: Master vibrator made by the K-W Ignition Co., Cleveland, Ohio (179866).
- MANN, DR. GUILLERMO, Santiago, Chile: 5 lots of helminths from Chile and South Georgia in the Antarctic (182033).
- MANSFIELD, LT. G. S., Atascadero, Calif.: Approximately 1,780 miscellaneous marine invertebrates together with fishes, mollusks, echinoderms, reptiles, insects, and Foraminifera, collected in California, Hawaii, and other Pacific Islands (182729).
- MARBLE, DR. JOHN P., Washington, D. C.: 11 specimens of gypsum from Herne Bay, England (180741). (See also under Prof. T. C. Phemister.)
- MARCUZZI, DR. G., Caracas, Venezuela: 200 land and fresh-water mollusks from Venezuela (180965).
- MARIE CAROLINE, Sister, Key West, Fla.: 1 polychaete worm (181127).
- MARGO, BORIS, New York, N. Y.: 27 cellocuts by donor lent for special exhibition during October 1948 (180554, loan); "Magnetic Maze," a cellocut by donor (181066).
- MARIANAS, COMMANDER OF. (See under National Military Establishment, *Department of the Navy, Bureau of Medicine and Surgery*.)
- MARINER'S MUSEUM, Newport News, Va.: 1 specimen of Devonian Hamilton sandstone containing numerous impressions of invertebrate fossils (180855).
- MARKS, ELIZABETH N. (See under University of Queensland.)
- MARLATT, MRS. C. L. (See under Helen Louise Sargent.)
- MARSHALL, ERNEST B., Laurel, Md.: 14 muskrat and 3 raccoon skulls from Laurel (179789); skulls of 1 gray fox, 4 opossums, 2 minks, and 2 muskrats from Laurel (182002).
- MARYLAND, STATE OF, *Department of Research and Education*, Solomons, Md.: (Through Dr. R. V. Truitt) 1 bryozoan (180796).
- MARYLAND ACADEMY OF SCIENCES, Baltimore, Md.: (Through Paul S. Watson) 49 plants from Maryland (179833).

- MASONITE CORPORATION, Chicago, Ill.: 13 specimens, 15 photographs, and 1 flow sheet showing the production and uses of Masonite hardboard (183154).
- MATEER, Prof. WARREN D., Golden, Colo.: (Through Harold L. Williams) 4 specimens of aragonite from 5 miles southwest of the J. A. Ranch House near the mouth of Palo Duro Canyon, south of Clarendon, Tex. (181805).
- MATHES, Dr. H. C., Bay City, Tex.: 52 fleas, 7 species, collected in Panama (180881); 100 slides of fleas from Texas (182712).
- MATTHEWS, RANSOM, Sierra Madre, Calif.: National magneto for a 4-cylinder gasoline engine (179874); Bosch low-tension magneto type ARH, patented 1905 and 1908 (182702).
- MATTOX, Dr. N. T., Oxford, Ohio: 6 lots of marine mollusks from Puerto Rico (180376); approximately 16 phyllo-pods, including 1 holotype and the rest paratypes (181631).
- MAY, J. F., Colorado Springs, Colo.: 56 insects (182173, exchange).
- MCAREAVEY, Father JOHN, Pymble, New South Wales: 500 ants, representing 48 forms (180292, exchange).
- MCCAWLEY, W. N. (See under E. I. du Pont de Nemours & Co.)
- MCCLAY, Prof. A. T., Davis, Calif.: 80 beetles, representing 8 species (182365).
- MCCLURE, Dr. F. A., Washington, D. C.: 3 Guatemalan plants (183091).
- MCCONNELL, MARY E., Kent, Wash.: Green plaid taffeta dress, period 1850-1860, black quilted petticoat, period 1840, mourning shawl and 2 veils, period of the Civil War (182662).
- MCCOY, Dr. THOMAS N., Kuttawa, Ky.: 1 fern from Kentucky (182699). (See also under Lyon County Senior High School.)
- MCCRADY, Dr. EDWARD, Sewanee, Tenn.: Partial skeleton of a fossil jaguar found in Little Salt River Cave, Franklin County, Tenn., in 1944 (180893).
- MCCULLOCH, Dr. IRENE. (See under University of Southern California, *Allan Hancock Foundation.*)
- MCGAHA, Y. J., Ann Arbor, Mich.: 106 insects (180708).
- MCGINTY, THOMAS L., Boynton Beach, Fla.: 1 mollusk from Lake Worth, Fla. (181454, exchange); approximately 50 *Donax* clams from Texas (181585); 147 lots, 900 specimens, including 10 lots of paratypes, of marine mollusks from Florida and the Bahamas (182898, exchange).
- MCKNIGHT, Dr. E. T. (See under U. S. Department of the Interior, *Geological Survey.*)
- MCLANE, WILLIAM M., Welaka, Fla.: Approximately 136 crustaceans (181361); 10 shrimps and 1 isopod (181086, 181952).
- MCMECHAN, A. E., Joplin, Mo.: 1 Premo "A" stereoscopic camera with 3 plate holders (182275).
- McMILLIN, ALVIN R., Waterloo, Iowa: "Zulu" pin-firing single shotgun (182513).
- MEAD, Mrs. LOUIS B., Cross River, N. Y.: Rifle carried in the inaugural parade of President Abraham Lincoln, and a revolver, compass, bayonet, blanket, and lithograph of Civil War period and 2 documents (182172).
- MEEM, Mrs. HARRY G., Washington, D. C.: Miscellaneous household linens, 1 embroidered lace piece, lady's lingerie set of middle of 19th century, lady's lingerie set of 1918, two dresses of 1920 period, and 1 pair of shoes—19 specimens (182611).
- MEHRING, A. L., Hyattsville, Md.: 33 fresh- and brackish-water snails from New Jersey (180415).
- MELBOURNE UNIVERSITY, Melbourne, Victoria: (Through Dr. Curt Teichert) 21 Ordovician and Silurian graptolites from Australia (181502, exchange).
- MENZIES, ROBERT J., Dillon Beach, Marin County, Calif.: 18 types of isopods (180514); 1 amphipod and 10 isopods (180962). (See also under College of the Pacific.)
- METROPOLITAN CAMERA CLUB COUNCIL, INC., New York, N. Y.: (Through Mildred B. Seales) 89 pictorial photographs, comprising the Twelfth Annual Travel Salon of donor, for special exhibition during August 1948 (180039, loan).
- MEYER, Rev. F. D., Croom, Md.: 1 gordiid worm from Croom (182619).
- MEYER, Prof. MARVIN C., Orono, Maine: 2 copepods (181630).
- MIAMI UNIVERSITY OF, *Marine Laboratory*, Miami, Fla.: (Through F. M. Bayer) 12 marine invertebrates (179594); (through J. Q. Tierney) 20 alcyonarians from Gulf of Mexico (182008).
- MICHENER, Dr. C. D., Lawrence, Kans.: 8 insects, 7 of which are paratypes (183164, exchange).
- MICHIGAN UNIVERSITY OF, Ann Arbor, Mich.: 5 plants from Southern United States (181388, exchange); 13 grasses from Canada (181540); 268 algae from Java and the Philippines (181650, exchange); 355 plants from Great Bear Lake (182254, exchange); (through Dr. Reeve M. Bailey) 4 topotypes of darter from Wolf Creek,

- 2.5 miles west of Pleasant View, Whitley County, Ky. (181364, exchange); (through Dr. T. H. Hubbell) 2 wasps from Florida and Mexico (181849).
- MILAN, FREDERICK A., Fairbanks, Alaska: 20 phanerogams from Alaska (180940).
- MILLER, Dr. A. K. (See under Dr. Ralph H. King.)
- MILLER, CARL F., Alexandria, Va.: Decorated belt from Goodenough Island, Melanesia (180491). (See also under Smithsonian Institution, *Bureau of American Ethnology, River Basin Surveys.*)
- MILLER, GERRIT S., Jr., Washington, D. C.: 1 bat, 137 plants, and 2 snakes collected near Little Switzerland, N. C. (180788).
- MILLER, HARRY EDWARD, Stratford, Conn.: 1 specimen of sphalerite from Edwards, St. Lawrence County, N. Y. (181889).
- MILLER, JAMES R., Brighton, Mass.: Approximately 100 deep-sea mollusks from south of Newfoundland (182616); 284 starfishes (183001).
- MILLER, JOHN H. (See under Weston Electrical Instrument Corp.)
- MILLINGER, W. A. F., Los Angeles, Calif.: A small model of a push plate, opposed piston, barrel-type engine designed by Frederick F. Brush about 1941 (181670).
- MINISTERIO DE AGRICULTURA, Buenos Aires, Argentina: 3 plants from Argentina (181401).
- MINISTERIO DE LA ECONOMÍA NACIONAL, Bogotá, Colombia: 5 solanaceous plants (182637).
- MINNESOTA, UNIVERSITY OF, Minneapolis, Minn.: 64 Minnesota plants (181687, exchange).
- MINOPEIO, Dr. JOSÉ LUIS, Mendoza, Argentina: Skin of a pichiciego from Argentina and reel of moving-picture film of this animal (182337).
- MINTURN, ROBERT E. (See under Hal L. Hollister.)
- MIRACLE, JAMES V., Culver, Ind.: 10 phanerogams from Virginia (180892).
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: 47 plants from Panama (180327, 181328, exchange); 25 plants (180441, 181140, exchange); 93 plants from Panama (181139, 181690, 181691, 182397, 182997); 166 Colombian plants collected by Paul Allen (181689); 65 grasses from Missouri (181720, 181874); 17 grasses and 6 plants from Mexico (182132, 182765).
- MOHR, Dr. CARL, Atlanta, Ga.: 1 pocket mouse (180176).
- MOHR, Dr. JOHN L., Los Angeles, Calif.: Approximately 345 amphipods from California and Puget Sound (182053); approximately 1,503 marine invertebrates (180284, 181027).
- MOLNAR, GEORGE, Diablo Heights, Canal Zone: 1 piece of fossil wood from Barro Colorado Island (181754).
- MONTANA STATE COLLEGE, Bozeman, Mont.: 1 grass from Montana (182930).
- MOORE, Dr. DWIGHT M., Fayetteville, Ark.: 1 fern from Arkansas (181245).
- MOORE, ETHELBERG ALLEN, New Britain, Conn.: A Bryant Celestial Indicator (orrery), 1870 (183058).
- MOORE, RAYMOND G., Washington, D. C.: 6 wooden-block planes for sash, molding, and tongue-and-groove cutting (182877).
- MOORE, Dr. RILEY D., Washington, D. C. (See under Dr. C. O. Goodpasture.)
- MOOREHEAD, WARREN K. (deceased): 3 problematical archeological objects from Xenia (?), Ohio (180232).
- MORAN, JACK, Washington, D. C.: 1 specimen of trilobite from Middle Devonian near Berkeley Springs, W. Va. (180487).
- MORRIS, C. W., Arlington, Va.: Portion of skull of walrus, dredged in 20 fathoms off Killdevil Hill, N. C., in March 1948 (180549).
- MORRISON, B. Y., Takoma Park, Md.: 20 insects (181044).
- MOUNTAIN FUEL SUPPLY Co., Rock Springs, Wyo.: (Through M. M. Fidler) 2 specimens of a Cambrian trilobite from a deep well in Emery County, Utah (182576).
- MUSEBECK, C. F. W. (See under U. S. Department of Agriculture, *Bureau of Entomology and Plant Quarantine.*)
- MULCAY, Rev. WILLIAM T., Nashville, Tenn.: Collection of 8 ethnological specimens obtained from the Baluba of the Lubilanshi River Valley, Belgian Congo, Africa, by donor while a missionary among them, also 10 coins from the Belgian Congo collected by donor (179819).
- MULLER, Dr. SIEMON WILLIAM. (See under Stanford University.)
- MUNDINGER, Prof. F. G., Geneva, N. Y.: 1 insect from New York (182302).
- MUÑOZ, Dr. CARLOS, Santiago, Chile: 31 photographs of plants, type specimens of *Vicia*, in the Museo Nacional, Santiago (180544). (See also under Museo Nacional de Historia Natural.)
- MUNRO, Dr. H. K., Pretoria, Union of South Africa: 1 fly (178350, exchange).
- MUNRO, J. A., Okanagan Landing, British Columbia: 14 mollusks from British Columbia (180360).
- MURPHY, J. J. (See under Linde Air Products Co.)

- MURRAY, A. C., Washington, D. C.: Fossil cetacean specimen from Calvert formation south of Plumpoint, Md., collected October 1948 (183157).
- MURRAY, Dr. J. J., Lexington, Va.: (Through Dr. A. Wetmore) 5 bird skins (179521).
- MURRAY, Mrs. JOHN H., Washington, D. C.: Pink satin dress of 1920 period, organdy dress of 1919 period, and red georgette-crepe dress of 1924 period (182725).
- MUSEO DE ENTOMOLOGÍA, Popayan, Colombia: 24 miscellaneous insects from Colombia (181531).
- MUSEO DE HISTORIA NATURAL, *Sección Botánica*, Montevideo, Uruguay: 36 plants from Uruguay (182488, exchange and gift).
- MUSEO DE LA PLATA, La Plata, Argentina: (Through Dr. A. F. Leanza) 35 plants from Argentina (178545, exchange).
- MUSEO FORESTAL, *Ministerio de Agricultura y Ganadería*, Bogotá, Colombia: 64 plants (181876).
- MUSEO NACIONAL DE HISTORIA NATURAL, Santiago, Chile: (Through Dr. Carlos Muñoz) 4 photographs of plant type specimens of family Urticaceae (183146, exchange).
- MUSEU NACIONAL DE RIO DE JANEIRO, São Christóvão, Rio de Janeiro, Brazil: 3 fragments of plants from Brazil (181325).
- MYERS, Dr. GEORGE S. (See under Stanford University.)
- NAGEL, WILLIAM J. (See under Anasco.)
- NATIONAL FORESTRY RESEARCH BUREAU, Nanking, China: 20 specimens of the most important and valuable woods of China (180290, exchange).
- NATIONAL FOUNDATION FOR INFANTILE PARALYSIS, New York, N. Y.: A 7-sectioned, illuminated exhibit depicting various stages in treatment of poliomyelitis (182502, loan).
- NATIONAL GEOGRAPHIC SOCIETY. (See under Arnheim Land Expedition.)
- NATIONAL GEOGRAPHIC SOCIETY-YALE UNIVERSITY-SMITHSONIAN INSTITUTION EXPEDITION TO NEPAL: 1,164 birds, together with mammals and 17 insects from India and Nepal collected under the direction of S. Dillon Ripley (179752, collected for the Museum).
- NATIONAL HERBARIUM, Sydney, New South Wales: 84 plants collected in New South Wales (180735, 181166, 182995, exchange).
- NATIONAL LEAD CO., South Amboy, N. J.: Nine cut gems of synthetic rutile of various colors (182827); (through Dr. R. Dahlstrom) 2 boules and 2 cut stones of synthetic rutile (180550).
- NATIONAL MILITARY ESTABLISHMENT:
Department of the Army, Washington, D. C.: United States Army Signal Corps exhibit of radar and radio comprising 2 models, schematic diagram, and microwave electronic tube components (175549); (through Maj. Gen. Russel B. Reynolds) 480 pictorial photographs from the first All-Service Photography Contest, for special exhibition during March 1949 (182386, loan); (through Dr. Arthur R. Turner) about 500 land, fresh-water, and marine mollusks from El Salvador (180149); 1 plant from El Salvador (180151).
- Armed Services Institute of Pathology*, Washington, D. C.: (Through Lt. Hugh L. Keegan) Approximately 985 mosquitoes, 2 centipedes, 23 fresh-water and marine shells, together with reptiles and 2 bats from the Philippine Islands (182388); 22 reptiles and amphibians from Okinawa and the Philippines collected by Lt. Hugh L. Keegan and the 5th Malaria Survey Detail (180853).
- Civil Affairs Division*, Washington, D. C.: (Through Donald J. Pletsch) 12 bats and associated ectoparasites from Honshu, Japan (181324).
- 8002d Hydroponic Farm Depot*, San Francisco, Calif.: (Through Lt. Col. Ewing W. Elliott) 259 plants from Japan (179913).
- Medical Department Research and Graduate School*, Washington, D. C.: 89 skins and 76 skulls of rodents, insectivores, bats, carnivores, and artiodactyls collected by Maj. Robert Traub in connection with scrub-typhus investigations (180325); rodents, 14 skins and skulls from Malaya, and 20 skins and 9 skulls from Taiwan; also 4 bat skins and skulls from Malaya, collected by Maj. Robert Traub in connection with scrub-typhus investigations (181288); (through Lt. Col. George W. Hunter, 3d) 5 lots of live and preserved mollusks from Japan (181851).
- Office, Chief of Finance*, Washington, D. C.: Set of Allied military currency, World War II (136 specimens) (182555).
- Office of the Quartermaster General*, Washington, D. C.: Cadet gray dress uniform of type formerly

- worn by United States Army Band and discontinued in 1948 (181133).
- Department of the Navy*, Washington, D. C.: 61 Sampson medals with bars of 61 ships of West Indies Squadron (180488); naval uniforms of World War II period (198 specimens) (183005).
- Alaska Naval Air Station*, Seattle, Wash.: Damaged Indian child's skull from Japanski Island at Sitka, Alaska (159611).
- Bureau of Medicine and Surgery*, Washington, D. C.: (Through Commander of Marianas) 10 larvae and 14 adult mosquitoes collected on Guam (179986).
- National Naval Medical Center*, Naval Medical Research Institute, Bethesda, Md.: 5 bats from Mount Nanlaud, Ponape Island, Caroline Islands (182128); (through Capt. M. J. Aston) approximately 600 land and marine shells from Solomon Islands and Saipan, collected by Commander Harry B. Eisberg (183061).
- Office of Naval Research*, Washington, D. C.: (Through Prof. and Mrs. G. E. MacGinitie) 3,634 miscellaneous marine invertebrates collected off Point Barrow, Alaska, together with fishes, echinoderms, mollusks, and parasitic worms (181883).
- Office of Naval Research*, Arctic Research Laboratory, Point Barrow, Alaska: (Through Dr. Laurence Irving) A large collection of lichens from Alaska (182163); (through Vladimir Walters) 425 fishes and 1 frog from Panama (182400); 136 crustaceans together with insects (183077); 89 fishes, insects, and mollusks from vicinity of Alaska (183108).
- U. S. Navy Electronics Laboratory*, San Diego, Calif.: (Through Dr. Gordon H. Tucker) 13 crabs (181083).
- U. S. Marine Corps*, Washington, D. C.: Uniforms, decorations, and equipment of type used by United States Marine Corps in 1948 (180599); United States Marine noncommissioned officer's sword and miscellaneous insignia and equipment of type used in United States Marine Corps in 1948 (181375).
- NATIONAL MUSEUM OF SOUTHERN RHODESIA, Bulawayo, Southern Rhodesia: (Through Dr. George Arnold) 55 ants, representing 14 species and 7 paratypes (182891, exchange).
- NATIONAL RESEARCH COUNCIL, *Pacific Science Board*, Washington, D. C.: Approximately 500 land mollusks from East Africa collected by Dr. F. X. Williams (181981, transfer).
- NATIONAL SERIGRAPH SOCIETY, New York, N. Y.: 1 complete serigraph exhibit with a master drawing, 6 working proofs, and a final print of "Buffoon," a serigraph by Edward Landon (180947).
- NATIONAL SPELEOLOGICAL SOCIETY, Washington, D. C.: (Through E. Earl Porter) 48 prints from Second Annual Salon of the National Speleological Society (182831, loan); (through Hugh V. Stabler) Indian skeletal remains from Nurdyke Village site, Tazewell County, and from Elk Garden village site and burial cave, Russell County, Va. (180028).
- NATIONAL SZECHWAN UNIVERSITY, Chengtu, Szechwan, China: 421 plants from China (179373); (through Prof. Wen-pei Fang) 1,736 Chinese plants (180603).
- NATURAL HISTORY SOCIETY OF MARYLAND, Baltimore, Md.: (Through Earl H. Palmer) 64 photographs from First Maryland Salon of Natural Science Photography (181843, loan).
- NATURHISTORISCHES MUSEUM, Vienna, Austria: 231 European plants (183148, exchange).
- NATURHISTORISKA RIKSMUSEET, Stockholm, Sweden: (Through Prof. Nils Odhner) 11 type alcyonarians (181251, exchange).
- NEEMAN, JAMES, Garberville, Calif.: 5 plants (180004).
- NEL, DR. HANS L., Pretoria, Union of South Africa: A specimen of lombaardite from Transvaal (181109).
- NELSON, DR. L. A., El Paso, Tex.: 145 specimens of Devonian, Mississippian, Pennsylvanian, and Permian invertebrate fossils from New Mexico and west Texas (179848, exchange).
- NEUMAN, DR. ROBERT B., Gatlinburg, Tenn.: Approximately 50 Lower Middle Ordovician fossils from Maryland and Pennsylvania (181929).
- NEWBOLD, FLEMING (deceased). (See under Mrs. Frank Brett Noyes.)
- NEWMAN, J. H., South Lyon, Mich.: 2 paratype Lepidoptera (181319).
- NEW MEXICO SCHOOL OF MINES, Socorro, N. Mex.: (Through Dr. Clay Smith) 51 invertebrate fossils from the lower Abo (?) near head of Bluewater Canyon, Zuffi Mountains, N. Mex. (181317).
- NEW MEXICO, UNIVERSITY OF, Albuquerque, N. Mex.: (Through Prof. Carl W. Beck) 1 slice of La Lande, N. Mex., meteorite weighing 160 grams (182716, exchange); (through Dr.

- Frank C. Hibben) skeletal material (Gallina culture) representing parts of 2 individuals from cliff house in Nogales Canyon, north-central New Mexico (183101).
- NEW YORK BOTANICAL GARDEN, New York, N. Y.: 7 grasses from Bahama and Cuba (179778, exchange): 28 plants from Ecuador (179810, exchange); 430 plants from Guiana (179830, exchange); 169 plants of the Maguire and Fanshawe British Guiana collections (180439, exchange); 1 plant (180476, exchange); 1 plant (180675); 31 cultivated begonias and bromeliads (181586, exchange); 246 plants collected by R. A. Howard on Bimini (181828, exchange); 11 cultivated plants (181977).
- NEW YORK STATE MUSEUM, Albany, N. Y.: (Through Alvin G. Whitney) 8 earthworms from leaf mold and peat moss in a florist's establishment (180057); 5 earthworms (180532).
- NEW YORK ZOOLOGICAL SOCIETY, New York, N. Y.: 12 plants (181382, exchange).
- NICHOLS, J. T., Jr., Murphy, N. C.: 2 salamanders including type and paratype from Ocoee Gorge, Polk County, Tenn., collected by donor (181814).
- NICHOLSON, Dr. A. J., Billings, Mont.: 4 rodents from New Caledonia (180141).
- NICHOLSON, DONALD J., Orlando, Fla.: 2 mollusks from Oriente, Cuba (180768).
- NICOL, Dr. DAVID, Washington, D. C.: About 300 brachiopods from Lower Cretaceous rocks at Fort Worth, Tex. (181559).
- NIGERIAN GOVERNMENT, *Geological Survey of Nigeria*, Kaduna Junction, Nigeria: 4 specimens of nigerite in sillimanite schist from Egbe, Ilorin Province, Nigeria (180594).
- NIXON, Mrs. ELSIE, Washington, D. C.: 2 Chinese antique silk fans with ivory staves, one hand painted and the other applied with pillow, bobbin-made lace (181935).
- NOME PUBLIC SCHOOLS, Nome, Alaska: (Through W. L. Angell) Cranial portion of a caribou or reindeer skull (180916).
- NORTH DAKOTA, UNIVERSITY OF, Grand Forks, N. Dak.: (Through Prof. G. C. Wheeler) 5 larvae taken from choke-cherry fruit (181894); approximately 500 ants (181980).
- NORTON Co., Niagara Falls, Ontario: (Through Gordon R. Findlay) 1 specimen of synthetic bromellite (180553).
- NORTON, Mrs. RICHARD, Washington, D. C.: 10 Etruscan vases and stands, purchased from countrymen in Rome, Italy, by the late Richard Norton, sometime between 1899 and 1910 (181448, purchase).
- NOYES, Mrs. FRANK BRETT (deceased), Washington, D. C.: (Through Fleming Newbold) Collection of 287 historical and costume dolls and 8 archeological figurines from Egyptian and Chinese tombs (143948).
- OAKLEY, R. G., Hoboken, N. J.: 3 lizards from Puerto Rico and Virgin Islands (180745).
- OAKS, O. A., Wilmette, Ill.: 1 wood specimen from China (182375, exchange); 1 specimen of wood of Norfolk Island pine (183153).
- OBBERG, Mrs. RUTH, Oaxaca, Oaxaca, Mexico: 1 fly (180751).
- OBORNE, H. W., Colorado Springs, Colo.: (Through Dr. J. B. Reeside, Jr.) 15 Devonian fossils from Nevada (179870).
- OCHOA, Dr. C., Huancayo, Peru: 86 plants from Peru (180224, 181331, 181384, 181644).
- ODHNER, Prof. NILS. (See under Naturhistoriska Riksmuseet.)
- OESCH, GODFRED R., Santa Cruz, Mindanao, Philippine Islands: 14 land shells from Mindanao (144283).
- OFICINA ESTUDIOS ESPECIALES SAG, San Jacinto, D. F., Mexico: 394 grasses from Mexico (180044).
- OHIO STATE UNIVERSITY, Columbus, Ohio. (Through Prof. J. N. Knull) 5 beetles, representing 3 species (181366); (through Prof. Alvah Peterson) 37 beetles, comprising 1 adult and 36 larvae of 7 species (182176).
- OHM, HERBERT D., San Antonio, Tex.: 60 pictorial photographs lent for special exhibition during April 1949 (182554, loan).
- OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE, Stillwater, Okla.: 3 grasses from Oklahoma (182395).
- OLALQUIAGA, F. GABRIEL, Santiago, Chile: 30 beetles and 74 insects from Chile (181036); 2 moths (181103).
- OLD, WILLIAM E., Jr., Norfolk, Va.: 250 fresh-water mollusks from New York and North Carolina and approximately 10 crustaceans from Mountain Lake Biological Station, Giles County, Va. (180293, exchange); 1 lizard from Ascension Island (180856); 25 marine mollusks from Hawaiian Islands (181510).
- OLIVARES, Father ANTONIO, Bogotá, Colombia: 4 birds from Colombia (181059).
- OLIVER, Capt. FREDERICK L., U. S. N., Cambridge, Mass.: 1 pair of men's ice

- skates made by Barney & Berry, Springfield, Mass., latest patent date 1887, and 1 pair of ladies' ice skates made by Samuel Winslow Skate Manufacturing Co., Worcester, Mass., no patent dates (181495).
- OLSEN, Prof. LELAND S., Lincoln, Nebr.: 5 syntypes of a new species of nematode (181707).
- OLSON, ANDREW C., Jr., San Diego, Calif.: 2 helminths and 2 fragments of a nematode from Idaho (180857).
- OLSON, S. (See under French Gratitude Train.)
- OLSSON, Dr. AXEL A., Langhorne, Pa.: 3 specimens of a new species of marine mollusk from Panama and Ecuador (183170).
- OMWAKE, H. G., Lewes, Del.: 15 marine and land mollusks from the Townsend Indian village site (kitchen middens) near Lewes, Del. (178875).
- O'NEILL, Mrs. MURIEL S., Chicago, Ill.: One-half of a coverlet in a Whig Rose design (180475).
- ONEY, Dr. JOHN. (See under Georgia State Game and Fish Commission.)
- OREGON STATE COLLEGE, Corvallis, Oreg.: 11 grasses from Oregon (180974).
- ORNDOFF, ROY L., Arlington, Va.: Iron connector for wooden water pipe (183093).
- OSMOND, JOHN C., Havertown, Pa.: 4 minerals—mimetite, cuprite, and bornite from Cornwall, England, and anglesite from Phoenixville, Pa. (179868, exchange). (See also under John C. Osmond, Jr.)
- OSMOND, JOHN C., Jr., Havertown, Pa.: (Through John C. Osmond) 2 andradite garnets from Cornwall, Pa., and 1 silver specimen (179824).
- OSWELL, GEORGE G., Fullerton, Calif.: 2 garnets from Bishop, Calif. (183004).
- PAINE LUMBER Co., LTD., Oshkosh, Wis.: 2 specimens showing a Rezo hardwood door and its construction (180017).
- PALMER, EARL H. (See under Natural History Society of Maryland.)
- PALMER, Dr. R. H. (deceased), Habana, Cuba: 375 Tertiary and Cretaceous brachiopods from Cuba (182551).
- PANAMA CANAL, THE, *Health Department*, Balboa Heights, Canal Zone: Skulls of 23 mammals collected by Dr. Herbert C. Clark in the Cabra Valley, Republic of Panama (182927, transfer).
- PARKE, DAVIS & Co., Detroit, Mich.: 4 bottles of drugs—Syrup Squill N. F., Vinegar Squill N. F., Syrup Squill Compound N. F., and Milk Magnesia U. S. P. (180470).
- PARKER, Dr. ELIZABETH, Lorton, Va.: 1 land mollusk from Fairfax County, Va. (182942).
- PARKS, Dr. H. B., College Station, Tex.: 39 fresh-water mussels from Texas (182060).
- PARODI, Dr. L. R., Buenos Aires, Argentina: 12 grasses from Argentina (181593, exchange); 14 miscellaneous grasses from South America (182549, exchange).
- PASSEDOUT, Mme. MARGUERITE BERNARD, Paris, France: (Through American Embassy at Paris) Tulle scarf of blonde net lace, said to have belonged to Marie Antoinette, an embroidered handkerchief of the period of Louis XVI, and a book by M. de Lescure, entitled "Les Palais de Trianon," Paris, 1867 (181606).
- PEARSE, Prof. A. S., Durham, N. C.: 709 marine invertebrates (including microscope slides) together with echinoderms, reptiles and amphibians, mollusks, and parasitic worms from Bimini, Bahama Islands (181815).
- PECHUMAN, Dr. L. L., Lockport, N. Y.: 17 flies, including type, allotype, and 15 paratypes (181565, 181674).
- PECORA, Dr. WILLIAM T. (See under U. S. Department of the Interior, *Geological Survey*.)
- PEDRICK, Dr. F. B. (See under Mrs. John Carder Pedrick.)
- PEDRICK, Mrs. JOHN CARDER, Washington, D. C.: (Through Dr. F. B. Pedrick) Black and pink dress of the period 1890-1891 and tan parasol with bamboo handle of the same period (180025).
- PENNINGTON, W. E., Tampa, Fla.: 3 crabs (182972).
- PERDEW, A. G., Cumberland, Md.: 25 assorted Devonian invertebrate fossils from Cumberland (181807).
- PERKINS, CHARLES ELIOT, Washington, D. C.: 68 color photographs for special exhibition during October 1948 (180596, loan).
- PERRY, ERNESTINE. (See under French Gratitude Train.)
- PERRY, Dr. STUART H., Adrian, Mich.: 1 meteorite from Girgenti, Sicily, weighing 8,750 grams (180783); 1 slice of the Smith Center meteorite, Smith County, Kans., weighing 91 grams (182262).
- PERSHING, FRANCIS WARREN, New York, N. Y.: 146 miscellaneous medals presented to Gen. John J. Pershing (182068, loan).
- PERSHING, Gen. JOHN J. (deceased): Peruvian pottery (182522); uniforms, decorations, medals, flags, and miscellaneous articles owned by General Pershing (263 specimens) (182935, bequest).
- PETERSON, Prof. ALVAH. (See under Ohio State University.)

- PETERSON, M. L., Arlington, Va.: 1 mollusk from the Florida Group, Solomon Islands (180029); 1 specimen of Guerrilla emergency currency issued in the Philippines, 5 centavos, series 1942 (180418); 2 covers from the Navy Antarctic Expedition of 1947-1948 postmarked January 1, 1948, and February 2, 1948 (182265).
- PETRIDES, DR. GEORGE A., College Station, Tex.: 19 bird skins together with 9 mammals including 7 skins and 7 skulls (180938).
- PETIBONE, DR. MARIAN H., Seattle, Wash.: Approximately 30 parasitic copepods (180328); 4 polychaete worms (180458); 1 polychaete worm and 2 bryozoans (180967).
- PFIAFF, REINALDO. (See under Universidad del Cauca.)
- PHELPS, WILLIAM H., Caracas, Venezuela: 1 rail (181057); 1 type specimen of a woodhewer (183180, deposit).
- PHEMISTER, Prof. T. C., Aberdeen, Scotland; (Through Dr. John P. Marble) A specimen of anorthosite from near Old Harbour, Portsoy, Banffshire, Scotland (182552).
- PHILIP, DR. C. B., Hamilton, Mont.: 2 flies (181933, exchange).
- PHILIPPI B., DR. R. A., Santiago, Chile: 1 bird from Chile (181972).
- PICKLE, Mrs. C. L., Grenada, Miss.: 2 crayfish gastroliths from duck (180748).
- PIERCE, Prof. E. LOWE, Gainesville, Fla.: Approximately 3,626 copepods (180602); 15 chaetognaths (182990).
- PILSBRY, DR. HENRY A. (See under Academy of Natural Sciences of Philadelphia.)
- PITELKA, DR. FRANK. (See under University of California.)
- PITTS, WILLIAM B., San Francisco, Calif.: 1 specimen of orbicular jasper from Santa Clara County, Calif. (179203).
- PIZZINI, ANDREW, Washington, D. C.: 65 amphipods, 8 crabs, and 1 isopod (179905); 30 amphipods from a spring at Vaux de Cernay, Seine et Oise, France (182066); 108 crustaceans from Loguiry, Brittany, France (182859).
- PLETSCH, DONALD J. (See under National Military Establishment, *Department of the Army, Civil Affairs Division.*)
- PODIAQUIN, DR. B., Asunción, Paraguay; (Through Dr. A. Wetmore) 16 birds from Paraguay (170801).
- PORTER, E. EARL. (See under National Speleological Society.)
- Post, R. L., Fargo, N. Dak.: 1 holotype specimen of bee (179970).
- POST OFFICE DEPARTMENT, U. S., Washington, D. C.: 3 copies each of the following postage stamps—5-cent Swedish Pioneer commemorative, 3-cent Mississippi Territory commemorative, 3-cent Wisconsin Statehood commemorative, and 3-cent Four Chaplains commemorative (180123); 3 copies each of the following 3-cent commemorative stamps—Progress of Women, William Allen White, United States-Canada Friendship, Francis Scott Key, Salute to Youth, Oregon Territory, Harlan Fiske Stone, Palomar Observatory, Clara Barton, Poultry Industry, Gold Star Mothers, and Fort Kearny, and 5-cent New York City Jubilee (180828); 3 specimens each of 10 United States commemorative postage stamps (181729); 1 specimen each of postage stamps and postal stationery issued in foreign countries and described in *Universal Postal Union Bulletins*, 1948, Nos. 14, 16, 18, 22, 24, 26, 29, 34, 36, and 39; 1949, Nos. 2, 5, 6, 8, and 10 (2,794 specimens) (181776); 3 examples of the 3-cent Minnesota Territorial commemorative postage stamp issued in 1949 (182687); 3 copies each of the following United States commemorative postage stamps—3-cent Washington and Lee University, 3-cent Puerto Rico gubernatorial election, 6-cent Alexandria, Virginia Bicentennial Air Mail, and 3-cent Annapolis, Md., Tercentenary (183079).
- POTZGER, J. E., Indianapolis, Ind.: Portion of a lower jaw of a presumed dinosaur recovered from a shipment of Virginia coal at Indianapolis, Ind. (181697).
- POUGH, DR. FREDERICK H., New York, N. Y.: (Through Dr. Michael Fleischer) 1 manganoan ilmenite from Nzokwe, Belgian Congo (181695).
- POULSEN, DR. CHRISTIAN. (See under Universitetets Mineralogiske og Geologiske Museum.)
- PRATT, DR. IVAN, Corvallis, Oreg.: 10 slides, type and paratype of a new species of trematode from western evening grosbeak, collected at Corvallis (182035).
- PRAY, LLOYD C., Altadena, Calif.: 504 invertebrate fossils from Paleozoic rocks of Sacramento Mountains of New Mexico (182170).
- PREBLE, EDWARD A., Washington, D. C.: 25 insectivores and 75 rodents (180446); 10 deer mice collected by Alfred E. Preble in Center Ossipee, N. H. (181072).

- PRESTON, ALICE, London, England: Green brocade and lace dress and white velvet evening wrap of late 19th century (182267).
- PRICE, HOMER F., Payne, Ohio: 20 grouse locusts (179969); 12 grasshoppers from Northwest Township, Williams County, Ohio (180243); 25 grasshoppers collected by donor about a quarter of a mile from Mud Lake in Northwest Township, Williams County, Ohio (180390); 12 grasshoppers collected on the bog of Mud Lake, Ohio (180462); 27 grasshoppers from along Flatrock Creek, southwest of Payne, Paulding County, Ohio (180671).
- PROCTOR, GEORGE R., Philadelphia, Pa.: 18 ferns (181106, exchange); 4 ferns from Jamaica (181231, exchange).
- QUEENSLAND, UNIVERSITY OF, Brisbane, Queensland: (Through Elizabeth N. Marks) 39 specimens of mosquito material, representing 11 species of which 7 are new to the collection and 2 are paratypes (178208); 14 pinned adults and 5 slides of mosquito material (181988).
- QUESTEL, ADRIEN, Guadeloupe, French West Indies: 10 marine invertebrates, together with mammal, fish, insect, mollusk, and echinoderm specimens (180298).
- RADCLIFFE, DR. LEWIS. (See under Sponge Institute.)
- RAEMAEKERS, ROLAND H., Antwerp, Belgium: 49 Tertiary invertebrate fossils from Belgium and France (180846, exchange).
- RAGATZ, JOHN J. (deceased), Prairie du Sac, Wis.: Archeological material from donor's farm, bordering on Honey Creek, 5 or 6 miles west of Prairie du Sac, Sauk County, Wis., presented in his name by his son, Dr. Lowell J. Ragatz (180598).
- RAGATZ, DR. LOWELL J. (See under John J. Ragatz.)
- RAMBO, DR. B., S. J., Pôrto Alegre, Brazil: 2 plants (179954).
- RANDALL, W. B., Lantz, Md.: 21 plants from Catoctin Mountains, Md. (180136).
- RANDEL, DR. HUGH WAYNE, New Orleans, La.: 68 reptiles and amphibians, 1 fish, and 2 lots of insects collected in Mexico, Guatemala, and Honduras in August and September 1947 (181999).
- RANSON, ABEL. (See under Francis Newlands Johnston.)
- RAPP, F. W., Vicksburg, Mich.: 3 grasses from Michigan (181136).
- RAPP, FLOYD A., San Francisco, Calif.: Slab exhibiting 19 complete and partial skeletons of fossil fish from Jurassic formation at Nekka Sho, Ryogen, Manchuria (181064); a collection of 77 minerals such as amethyst, danburite, apatite, etc., from various localities of Japan and Korea (182882, exchange).
- RAPP, WILLIAM F., JR., Crete, Nebr.: A collection of plants from New Jersey (180137).
- RAPSCH, MISS, Neidersachsen, Germany: 19 specimens of mosquito material, including 1 vial of larvae (178351).
- RASETTI, DR. FRANCO, Baltimore, Md.: 42 Ordovician and Cambrian brachiopods from Canada and Virginia (180946).
- RAUL, MRS. MINNIE L., Washington, D. C.: 59 etchings, 33 in color and 26 in black and white, for special exhibition April 25 to May 22, 1949 (182553, loan).
- RAY, SAMMY M., Pensacola, Fla.: 171 birds and 3 mammals (2 bats and 1 shrew) from Pacific war areas (182374).
- REED, PROF. CLYDE T., Tampa, Fla.: Approximately 30 marine mollusks from Sarasota, Fla., and 9 insects (181365). (See also under University of Tampa.)
- REED, FRED C., Washington, D. C.: 1 therapeutic lamp of about 1905 (181062).
- REED, MRS. IVY KELLERMAN, Arlington, Va.: 3 pieces of Honiton lace—a jabot and 2 collars made by Mrs. Stella V. Kellerman, mother of donor, at Manhattan, Kans., during 1880's (181706); collection of needlepoint and bobbin-lace collars and cuffs acquired in Belgium and Venice; a doily of Mexican drawnwork; a Catalonian man's knitted woolen cap; an embroidered apron acquired in Guatemala by W. A. Kellerman; also 4 pieces of drawnwork by mother of donor, completed about 1900 (183183).
- REES, DR. W. J. (See under British Government, *British Museum (Natural History)*.)
- REESIDE, DR. J. B., JR. (See under H. W. Osborne and U. S. Department of the Interior, *Geological Survey*.)
- REEVES, DR. WILLIAM C., San Francisco, Calif.: 11 mosquitoes (182556); 8 mosquitoes, 6 from Yap and 2 from Guam (183010).
- REHDER, DR. HARALD A., Washington, D. C.: 1 towhee (179862).
- REINHARD, H. J., College Station, Tex.: 4 flies, including 2 paratypes (182363).
- REITZ, REV. P. RAULINO, Santa Catarina, Brazil: 98 plants from Santa Catarina (180007).
- REXALL DRUG CO., Los Angeles, Calif.: 1 petechiometer (180479).

- REYNOLDS, MRS. JOHN E., Meadville, Pa.: 1 spirit set, 2 silver forks, and 1 silver cup, which were used by Andrew Elliott (182127).
- REYNOLDS, Maj. Gen. RUSSEL B. (See under National Military Establishment, *Department of the Army.*)
- RIBBE, JOHN, Malott, Wash.: Stone pebble, granitic schist, found by donor on his ranch near Malott, Okanogan County, Wash. (181418).
- RICH, Mrs. C. A., Bellport, Long Island, N. Y.: (Through Mrs. Margaret S. Hildreth) A cotton quilt made of 1876 Centennial prints (180031).
- RIFFLARD, Dr. DÉSIRE C., Brussels, Belgium: About 300 Eocene fossils from Belgium (179775).
- RIJKSHERBARIUM, Leiden, Netherlands: 1 photograph of a plant type specimen (181386, exchange).
- RIORDON, DAVID L., Washington, D. C.: 1 cashmere shawl, with magenta-colored silk ground, formerly in possession of the late Senator George F. Hoar (182270).
- RIVERO, Dr. JUAN A., Mayagüez, Puerto Rico: Approximately 15 marine invertebrates and 1 mollusk (180351); 7 shrimps and 2 crabs (182086); 2 crabs and 1 barnacle (182974).
- ROBERTS, Dr. FRANK H. H., Jr. (See under Smithsonian Institution, *Bureau of American Ethnology, River Basin Surveys.*)
- ROBINSON, JOHN H., Barksdale Field, La.: 30 insects (181846); 21 beetles (182274, exchange).
- ROCKEFELLER FOUNDATION, *International Health Division*, New York, N. Y.: 2 mosquitoes with associated larval skin from Colombia, both new to the Museum's collection (181241).
- ROCKEFELLER FOUNDATION, Rio de Janeiro, Brazil: (Through Dr. Henry W. Kumm) 6 mosquitoes (183009).
- ROEBLING FUND, Smithsonian Institution: 6 minerals from Las Chiapas mine, Sonora, Mexico (180817); 1 covellite from Alghero, Sardinia, and 4 tourmalines and 2 beryls from Minas Gerais, Brazil (181110); a collection consisting of 10 various secondary uranium minerals from Shinkolobwe, Katanga, Belgian Congo (181195); a specimen of gold in quartz from the Porcupine District, Ontario, Canada (181239); collection comprising 30 uranium minerals, such as curite, saleite, fourmarierite, etc., from various localities of Belgian Congo (182042); 2 columbite crystals from Brazil (182722).
- ROECKER, ROBERT M., Ithaca, N. Y.: 87 small mammals from Ryukyu Islands, Philippine Islands, and New Guinea (181784).
- ROGERS, Mrs. FLOYD STERLING, Jr., Washington, D. C.: 2 specimens of lady's pink crepe-de-chine lingerie of style worn during 1930's (182612).
- ROGERS, NANCY, Washington, D. C.: 1 bat from Highland County, Va. (182615).
- ROSE, STEPHEN, Washington, D. C.: 1 beetle taken near Madden Dam, Panama (180105).
- ROSENGURTT, Dr. BERNARDO, Estación Dr. Alejandro Gallinal, Uruguay: 22 plants from Uruguay (181973, exchange and gift); 20 grasses from Uruguay (182257).
- ROTGER, Rev. BERNARD, C. R., Capulin, Colo.: 9 beetles (179971, exchange).
- ROWLEY, ELMER B., Glens Falls, N. Y.: 6 vesuvianite crystals from near Olmstedville, Essex County, N. Y. (181698, exchange).
- ROYAL BOTANIC GARDENS, Kew, Surrey, England: 104 grasses mostly from Africa (182606, exchange).
- ROZANSKI, GEORGE, Bronx, N. Y.: 1 lizard, 14 frogs, and a box of gastropod shells from Domo Santa Clara, Peru, collected by donor (180883).
- ROZEBOOM, Dr. LLOYD E., Baltimore, Md.: 1,322 specimens of determined Philippine mosquitoes, consisting of 667 pinned adults and 655 slides (179968).
- RUNDLETT, E. A., Staten Island, N. Y.: 2 beetles (180278).
- RUNYON, ROBERT, Brownsville, Tex.: 3 ferns (182017).
- RUSSELL, Sir ARTHUR, Reading, England: 5 specimens of rashleighite from Cornwall, England (183003).
- RUTSCH, Dr. R. F., Bern, Switzerland: 13 late Miocene gastropods from Venezuela (181444, exchange).
- SABROSKY, CURTIS W., Washington, D. C.: 4 flies, including 2 holotypes with allotypes (181569); 13 flies, representing 8 species, all type material (181584); holotype and allotype of new species of fly (182717); 1 wood thrush (182878).
- SABROSKY, Mr. and Mrs. CURTIS W., Washington, D. C.: 25 marine mollusks from Long Beach, N. C. (180872).
- SAILER, Dr. R. I., Washington, D. C.: 1 diatom from Alaska (181025).
- SALISBURY, Dr. H. S., San Rafael, Calif.: 3 Tertiary echinoids from California and a fish plate from Mississippian of Illinois (179315, exchange); 9 Tertiary echinoids, 1 Tertiary coral, and a Recent echinoid from California (180122, exchange); 5 Tertiary and 22 Recent echinoids from Stimson Beach, Calif. (181075).

- SANDERSON, FRANK K., Washington, D. C.: 1 gray-cheeked thrush (180493).
- SANDOZ, MRS. MILDRED D., Yorktown, Va.: Approximately 10 crab larvae (180297).
- SANTSCHI, DR. F. (deceased), Kairouan, Tunis: 21 ants (149950, exchange).
- SARGENT, HELEN LOUISE (deceased): (Through Mrs. C. L. Marlatt) 2 glazed pottery tiles with human figures and floral and landscape details on low rounded relief, Persian, last half 19th century (183099).
- SARLES, E. H., Norwood, Ohio: (Through Dr. R. S. Bassler) 1 young echinoderm from Ordovician of Cincinnati, Ohio (181840).
- SAWYER, WELLS M., Sarasota, Fla.: 1 tailless whip scorpion collected by Mrs. Helen Sawyer Farnsworth in Sarasota, Fla. (179756).
- SAYRE, FRANCIS B., Washington, D. C.: Ceremonial woven mat from western Samoa, gift to Mr. Sayre by Samoans, 1947 (183230, loan).
- SAYRE, MR. and MRS. FRANCIS B., Washington, D. C.: 8 ethnological specimens (3 from western Samoa, 3 from Siam, and 2 from Peru), also 3 archeological specimens from Peru (183229).
- SCALES, MILDRED B. (See under Metropolitan Camera Club Council, Inc.)
- SCATTERGOOD, DR. LESLIE W. (See under U. S. Department of the Interior, *Fish and Wildlife Service.*)
- SCHAAF, A. E., Cleveland, Ohio: 1 high-wheel Columbia light roadster bicycle, 1887 model, restored as new by donor (182167).
- SCHALLER, DR. WALDEMAR T., Washington, D. C.: 2 specimens of barite from southwest of Walton, Nova Scotia (181034).
- SCHEDL, DR. KARL E., Ruefenfelweg, Austria: 25 beetles representing 8 new species, including cotypes (178-417, exchange).
- SHELL, STEWART C., Champaign, Ill.: 3,500 insects (Chalcidoidea) (181-582).
- SCHIEDE, JOHN, JR. (See under Telephone Camera Club of Manhattan.)
- SCHMIEGE, CARL (deceased), Grand Rapids, Minn.: (Through Mrs. Carl Schmiede) 2 motiograph 35-mm. motion-picture projectors (180769).
- SCHOLANDER, DR. P. F., Coco Solo, Canal Zone: 381 lichens from Panama (181-657).
- SCHROEDER, LUELLA, Bloomfield Hills, Mich.: 1 bone of elk and a shell, collected from White Clay Creek, 7 miles northeast of Newark, Del. (180610).
- SCHROEDER, WILLIAM C. (See under Harvard University, *Museum of Comparative Zoology.*)
- SCHULTES, DR. RICHARD E., Cambridge, Mass.: 1 plant from Colombia (181-627); 4 plants from Mexico (181976). (See also under U. S. Department of Agriculture, *Bureau of Plant Industry, Soils, and Agricultural Engineering.*)
- SCHWENDEL, DR. JEANNE S., Greenwich, Conn.: 3 marine shells from Okinawa (181708); 8 lots of marine mollusks from Fiji, Ponape, Ryukyu Islands, Australia, and Florida (182718).
- SCIENTIFIC MONTHLY. (See under Smithsonian Institution.)
- SECRETARIA DA AGRICULTURA, INDUSTRIA E COMERCIO, *Servico Florestal do Estado*, São Paulo, Brazil: 35 plants from Brazil (181060, exchange); 17 grasses from Brazil (181652).
- SECRETARIA DE ESTADO DE AGRICULTURA, Ciudad Trujillo, Dominican Republic: 1 plant (180939, exchange).
- SEEVERS, DR. CHARLES H., Chicago, Ill.: 62 beetles (179636, exchange).
- SEVERIN, PROF. H. C. (See under South Dakota State College.)
- SEYMOUR, F. C., Appleton, Wis.: 1 plant from Ohio (181832).
- SHANGHAI MUSEUM, Shanghai, China: (Through D. C. Jansen) 116 fishes and a shrimp received in June 1882 (182495).
- SHARP, DR. AARON J. (See under University of Tennessee.)
- SHAW, CHARLES M., Washington, D. C.: 1 cultivated plant (183149).
- SHAW, HARRY B., Washington, D. C.: 3 pictorial photographs made by donor (180316).
- SHAW, RICHARD F., Berkeley, Calif.: 11 mollusks from San Francisco Bay, Calif. (180188).
- SHOCKLEY, W. D., Vicksburg, Miss.: 2 hackmanite specimens from Bauxite, Ark. (181696).
- SHROCK, PROF. ROBERT R., Cambridge, Mass.: 27 Cambrian trilobites from the famous Brantree, Mass., locality (181607).
- SIGAFOOS, ROBERT S., Cambridge, Mass.: 39 lichens (182396).
- SILER, COL. J. F., Washington, D. C.: 8 bronze medals of France, period of World War I (180895).
- SIMMONDS, MARGARET A., Washington, D. C.: Fragment of an English engraved metal plate print, about 1785, a darned net baby bonnet, 19th century, and a hand-woven linen shift, 19th century (180032).
- SIMPSON, GRIMNER, Washington, D. C.: 1 young robin (180221).

SINCLAIR, RALPH M., Nashville, Tenn.: 1 fish from Davidson County, Nashville, Tenn., collected on January 22, 1949 (181793); 7 chipmunks from Tennessee (182557).

SKILLIN, I. S., Freeport, Maine: 1 graphic granite from Bradbury Mountain, Pownal, Maine (182934).

SMEDLEY, J. E., Washington, D. C.: Tapir maxilla, from 2 miles south of Chesapeake Beach, Md. (182826).

SMITH, Dr. ALBERT G. (See under Chicago Academy of Sciences.)

SMITH, Dr. ALLYN G., Berkeley, Calif.: 50 eggs of the giant African snail (182175). (See also under California Academy of Sciences.)

SMITH, C. B., Anacostia, D. C.: 1 beetle (180034).

SMITH, Dr. CLAY. (See under New Mexico School of Mines.)

SMITH, FOSTER D., JR., Caracas, Venezuela: 7 birds, 2 birds' eggs, mammals, 17 insects, and 68 plants (182754).

SMITH, H. DEWITT. (See under Tsumeb Corporation, Ltd.)

SMITH, Dr. LYMAN B., Washington, D. C.: 123 plants from Maryland (181383, 181834). (See also under A. Castellanos.)

SMITH, OWEN J., Columbus, Ohio: 1 lot of nematodes from Ohio (181472).

SMITHSONIAN INSTITUTION, Washington, D. C.: 2 etchings, "Express Stop" by Douglas Gorsline and "French Lace" by John Taylor Arms, both associate membership prints of the Society of American Etchers, Gravers, Lithographers, and Woodcutters, Inc. (179956, 183160, deposit); 121 bees, bethylid wasps, 1 ant, 1 chalcid, 1 bug, 1 fly from Madagascar purchased from Karl V. Krombein (182075, deposit). (See also under Arabian American Oil Co., Arnhem Land Expedition, National Geographic-Yale University-Smithsonian Institution Expedition to Nepal, and the following funds: Abbott, Canfield, Chamberlain, Dahlgreen, and Walcott.)

Bureau of American Ethnology: Stone artifacts and rejectage collected by Sheldon Judson at various sites in Quay County, N. Mex. (180455); archeological material from the site of Huari, near Ayacucho in the Central Peruvian Andes, collected by Dr. Gordon R. Willey in September 1946 (182343); 24 hand-made silver brooches from Grand River Indians at Caledonia, Ontario, Canada (182450); pipe and tobacco pouch and pipe of "White Calf," Plegan Blackfoot Chief (bequeathed to Bureau by

Florence Merriam Bailey) (182928); miscellaneous potsherds from the Algonkian village site of Pissasec, near Leedstown, Westmoreland County, Va., collected in 1936 by the late David I. Bushnell, Jr. (182986); (through Dr. Gordon R. Willey) earthenware vessels and other artifacts collected by Dr. Willey in Virú Valley, Department of La Libertad, Peru (181218). (See also under U. S. Department of the Interior, *Geological Survey*.)

Bureau of American Ethnology, River Basin Surveys: Archeological material collected at the Hodges Site on Plaza Larga Creek, 8 miles southeast of Tucumcari, Quay County, N. Mex., August 1947, by Herbert W. Dick as a project of the River Basin Surveys (179533); Indian skeleton from Lake Spring site, Savannah River, Ga. (179773); (through Dr. Frank H. H. Roberts, Jr.) approximately 114 fossil vertebrates from Canyon Ferry Reservoir area near Helena, Mont., and about 66 specimens from the Boyesen Reservoir area in Wyoming (180511); bird bones from Frontier County, Nebr. (181642); (through Carl F. Miller) 80 fresh-water mollusks from Indian site 1 mile east of Clarksville, Va., on east side of Roanoke River (182895); (through Robert B. Cumming, Jr.) 48 fresh-water mollusks from archeological sites in Kansas, Nebraska, and North Dakota, also 2 lots of fossil mollusks from North Dakota (181777).

National Museum, collected by members of the staff: Approximately 184 specimens of miscellaneous marine invertebrates together with echinoderms, mollusks, fishes, and corals collected in Florida and surrounding waters by Frederick M. Bayer (178792); 145 plants from Labrador and Baffin Island and 21 specimens of Upper Ordovician invertebrate fossils, a human skull and infant mandible (Eskimo), 11 amphipods, and 40 mammal specimens from Silliman's Fossil Mountain at head of Frobisher Bay, Baffin Island, Northwest Territories, collected by Dr. Henry B. Collins, Jr. (180313, 181220); 21 Sub-Holocene and Holocene genera from the Triassic Bull Run shale, 3.6 miles west of Haymarket, Va., Prince William County, and 22 Triassic fishes from Licking Run, approximately 2 miles northwest of Midland, Fauquier County,

- Va., collected by Dr. David H. Dunkle (181841, 182829); 2 fish specimens and approximately 250 fossil invertebrates from various middle and Upper Devonian horizons in northern Ohio, collected by Dr. Alwyn Williams and Dr. Dunkle, May 1949 (183094); birds, mammals, fishes, insects, echinoderms, mollusks, and marine invertebrates collected by Charles O. Handley, Jr., during the 1948 Arctic Operation of Task Force No. 84 of the Department of the Navy (179751); 1,291 plants, 1 mollusk, and 1 insect from South America collected by E. P. Killip (182472); 2 mollusks from Sarasota Bay, Fla., collected by Dr. J. Brookes Knight (182714); 64 plants of Argentina collected by Dr. Lyman B. Smith (181654); 1 land snail from Guatemala collected by Dr. T. Dale Stewart (182715); 247 grasses from Wisconsin and North Dakota collected by Jason R. Swallen (181235); 4 triphylites from the Palermo mine, Grafton, N. H., collected by Dr. George Switzer (182724); 78 birds and 18 mammals from Japan collected by Ford Wilke (181131).
- National Museum, obtained by purchase:* 450 photographs of type specimens of plants (179831); casts of mandible and facial fragment of an ancient man (180447); 856 photographs of plant type specimens (181387); 2 part-gold ornaments of Veraguas culture from Panama (181391); 644 photographs of type specimens in European herbaria (182319).
- National Museum, made in the Museum:* 102 photographs of plants made from borrowed negatives (180312); 205 photographs of plants (180442, 180676); 2 replicas of a platform pipe owned by Jeff Higginbotham, Tazewell, Va. (183071).
- National Zoological Park:* 63 birds (179827, 179950, 180890, 181058, 181381, 182080, 183142); 1 giant African snail from West Africa (180282); 3 birds and 2 eggs (180307); 55 reptiles and amphibians (183156); 31 mammals (183186).
- SMITHSONIAN INSTITUTION AND THE SCIENTIFIC MONTHLY, Washington, D. C.: 282 photographs, Second International Photography-in-Science Competition cosponsored by the Smithsonian Institution and the *Scientific Monthly* (180318, loan).
- SOLANO, Sister FRANCIS, Rochester, N. Y.: 8 amphipods and 6 isopods (181026, 183075).
- SOLLERS, ALLAN A., Baltimore, Md.: 1 sample of marine mud containing diatoms from Chesapeake Bay (179864).
- SORENSEN, A., Pacific Grove, Calif.: 2 mollusks and 9 marine invertebrates from Morro Bay, San Luis Obispo County, Calif. (182347); 2 marine mollusks from near Guaymas, Sonora, Mexico (182558).
- SOUKUP, Dr. J., Lima, Peru: 18 plants (180075); 36 plants from Peru (181779).
- SOUTH DAKOTA STATE COLLEGE, Brookings, S. Dak.: (Through Prof. H. C. Severin) 44 beetles (182894).
- SOUTHERN CALIFORNIA, UNIVERSITY OF, Los Angeles, Calif.: 79 grasses from Mexico (181414); (through Dr. W. H. Easton) 5 Cretaceous pelecypods from Lower California (181183, exchange).
- Allan Hancock Foundation:* 480 plants from Mexico and Central America (180112, exchange); 7 grasses from Mexico (181717); 2 plants from Mexico (181835); (through Dr. Irene McCulloch) 70 lots of hydroids, including hypotypes, topotypes, and paratypes (182036).
- SOUTHERN METHODIST UNIVERSITY, Dallas, Tex.: (Through Dr. C. L. Lundell) 14 grasses from Texas (180928, exchange).
- SOUTH WORTH, CHARLES, Thedford, Ontario: 500 Middle Devonian fossils from Ontario (182382).
- SOUZA-NOVELO, Dr. NARCISO, Mérida, Yucatán, Mexico: 10 beetles from Yucatán (181457).
- SPENCER, DOROTHY, Takoma Park, Md.: 12 ants from Singapore (181515).
- SPENCER, P. H., Fort Lauderdale, Fla.: 1 original experimental 50-caliber, 7-shot Spencer repeating rifle and 3 original experimental Spencer repeating shotguns (180699).
- SPERRY, ORA, Estate of, Ann Arbor, Mich.: 1 strand opal beads, 1 jade plaque pin, 1 jade bracelet piece, and 1 jade pendant piece (181671).
- SPEZTMAN, LLOYD, Minneapolis, Minn.: 66 lichens from Alaska (181330).
- SPONGE INSTITUTE, Washington, D. C.: (Through Dr. Lewis Radcliffe) 1 lot of coral and 2 lots alcyonarians (179746).
- STABLER, HUGH V. (See under National Speleological Society.)

- STANFORD, Mrs. RUSSELL, Richland, Wash.: (Through J. A. Stevenson) Beaded pipe and tobacco pouch, probably Flathead Indians of Montana (182501).
- STANFORD UNIVERSITY, Stanford University, Calif.: (Through Dr. Myra Keen) 8 Tertiary crabs from the Monterey formation, Soledad Quadrangle, Monterey County, Calif. (181500); (through Dr. Siemon William Muller) 80 Mesozoic and Permian brachiopods from Europe (181931, exchange).
- Natural History Museum:* (Through Robert B. Harry) 2 fishes from mouth of small stream on north coast Guadalcanal Island, Solomons, collected by Robert C. Pendleton, May 1944 (181033, exchange); (through Dr. George S. Myers) 9 fishes from the Philippine Islands, collected by Dr. A. W. Herre in 1931 and 1940 (182034, exchange).
- Dudley Herbarium:* 2 grasses from Mexico (179912, exchange).
- STARK, ROBERT, Grapevine, Tex.: 150 invertebrates from Pennsylvanian of north Texas and 4 specimens of Lower Cretaceous worm tubes from central Texas (180465); 2,000 invertebrate fossils from Pennsylvanian of Wise County, Tex. (181316).
- STATE, U. S. DEPARTMENT OF. (See under Frederic Stern.)
- STEARNS, RICHARD E., Baltimore, Md.: Archeological artifacts from various localities in Harford, Baltimore, Anne Arundel, Cecil, and Calvert Counties, Md. (182055).
- STEINLE, D. R., Washington, D. C.: 1 luna moth collected in Greenbelt, Md. (182833).
- STEPHENS, Mrs. KATE, San Diego, Calif.: A printed silk gauze shawl (180227).
- STEPHENSON, Mrs. MARY R., San Diego, Calif.: 1 plant from California (180078).
- STEPHENSON, Dr. T. A., Aberystwyth, Wales: 12 crabs and 7 hermit crabs (180474).
- STEEPAT, LEO. (See under Artists' Guild of Washington.)
- STERN, FREDERIC, Casablanca, Morocco: (Through United States Department of State) 1,523 miscellaneous insects, a collection made by a Mr. Metier and his daughter and purchased by donor (178362).
- STEVENSON, JOHN A. (See under U. S. Department of Agriculture, *Bureau of Plant Industry, Soils, and Agricultural Engineering*, and Mrs. Russell Stanford.)
- STEYSKAL, GEORGE, Grosse Ile, Mich.: 1 fly holotype (182269).
- STINTON, F. C., Hants, England: 1,253 fossil fish otoliths representing 29 species from the Eocene, Barton and Bracklesham beds, of England (180629, exchange).
- STIRLING, Dr. M. W., Washington, D. C.: 37 frogs, 10 lizards, 10 snakes, and 1 scorpion from Parita, Herrera, Panama, collected in February-March 1948 by donor (179809).
- STOCKER, JOSEPH, Jr., Norwood, Ohio: 1 cystid from the Upper Ordovician in the neighborhood of Cincinnati, Ohio (180483).
- STOCKTON, SAMUEL W., Buffalo, N. Y.: 1 Devonian fossil nautilus from the Ludlowville shale at Wanakah, N. Y. (179914, exchange).
- STONE, Dr. BENTON, Arcadia, Calif.: 5 slides of type Foraminifera (180269).
- STORMER, Dr. PER. (See under Universitetets Botaniske Museum.)
- STOYANOW, Dr. ALEXANDER A., Tucson, Ariz.: 16 brachiopods from northern Mexico (180552); chert nodule containing one mold of a crinoid from Redwall limestone, collected by L. F. Brady, near Natural Bridge, Ariz. (182886).
- STRAIN, WILLIAM, El Paso, Tex.: 1 sample of Canutillo limestone (Devonian) of Texas containing many hundreds of conodonts (180480).
- STRAUB, PAUL A., New York, N. Y.: Collection of 1,808 gold and 3,844 silver coins, mostly European, dating from 14th to 20th century, with 2 catalogs numbering and listing each coin in alphabetical and chronological order and describing it according to ruler, denomination, date, and metal (5,652 specimens) (161590).
- STREATER, Mrs. EMMA F., Washington, D. C.: 1 hand-woven linen tablecloth and part of a hand-woven bedspread, early 19th century (182325).
- STRESSLER, CHARLES J., St. Albans, N. Y.: A Christianson starter motor, 4-cylinder, compressed-air, about 1910 (181048).
- STRIMPLE, HARRELL L., Bartlesville, Okla.: 6 Permian brachiopods from northern Oklahoma (180551); 50 brachiopods and 75 bryozoans from Pennsylvanian rocks of Oklahoma (181839).
- STRONG, E. E., Miami, Fla.: Single-barrel hammerless shotgun (179957).
- SUL ROSS STATE TEACHERS COLLEGE, Alpine, Tex.: 100 plants from Texas (182948).

- SURBER, DR. EUGENE W. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- SUTCLIFFE, W. H., JR., Durham, N. C.: 71 copepods (180664, 181722).
- SWAIN, DR. FRED, Minneapolis, Minn.: 150 conodont samples from Ordovician of Minnesota (182169, exchange).
- SWAN, DR. EMERY F., Friday Harbor, Wash.: Approximately 50 copepods from gills of clams (182239). (See also under University of Washington, *Oceanographic Laboratories*.)
- SWANSON, DR. LEONARD E., Gainesville, Fla.: 8 land and fresh-water mollusks from Gainesville and 13 cattle liver flukes from Florida (182775).
- SWINGLE, MRS. W. T., Washington, D. C.: Two piña-cloth squares acquired in the Philippines in 1915 and a set of lace bobbins and lace patterns from Lauterbrunnen, Switzerland (183182).
- SWITZER, DR. GEORGE, Washington, D. C.: 2 specimens of diopside from one-half mile north of Mount Jackson Resort, Sonoma County, Calif. (182723).
- SYDNEY, UNIVERSITY OF, Sydney, New South Wales: (Through Dr. Ida A. Brown) 14 Tertiary brachiopods from Victoria, Australia (176233, exchange).
- TAGLE, V., DR. ISAIAS, Santiago, Chile: 6 helminths from Chile (180746).
- TAMPA, UNIVERSITY OF, Tampa, Fla.: (Through Prof. Clyde T. Reed) 300 fishes from between Tampa and Englewood, Fla. (178773).
- TÅNING, DR. Å. VEDEL, Charlottenlund Slot, Denmark: 20 fishes from off Hebrides and Faroe Islands (180865, exchange).
- TAYLOR, DWIGHT W., Nantucket, Mass.: Approximately 400 mollusks from Nantucket (180343, exchange).
- TAYLOR, MAJ. E. D., Fort Belvoir, Va.: Specimen of uraninite from Ontario, Canada (180547); 1 lot sand concretions from one-half mile below Imperial Dam, Colorado River, Ariz. (181445).
- TAYLOR, MRS. OLA, Dearborn, Mich.: A double-weave coverlet (179762).
- TAYLOR, PRENTISS, Arlington, Va.: 39 lithographs by Prentiss Taylor for special exhibition from September 7 through October 3, 1948 (180291, loan); 1 lithograph, "Morelia Aqueduct," by donor (181240).
- TEARE, MARGARET, Clearwater, Fla.: 3 marine mollusks from Bradenton, Fla. (182896).
- TEICHERT, DR. CURT. (See under Melbourne University.)
- TELEPHONE CAMERA CLUB OF MANHATTAN, Brooklyn, N. Y.: (Through John Schiede, Jr.) 60 pictorial photographs made by members of the Telephone Camera Club of Manhattan, comprising the 14th Bell System Traveling Salon, special exhibition during July 1948 (180022, loan).
- TELEX, INC., Minneapolis, Minn.: 1 mechanized exhibit, 95 by 59 by 6½ inches, constructed of plywood, wood, and translucent plastic material containing 44 40-watt bulbs, presenting a historical review of the development of hearing aids, and showing how they aid hearing (182772).
- TENNESSEE, UNIVERSITY OF, Knoxville, Tenn.: 47 lichens from Southeastern United States (179832, exchange); 79 grasses from Mexico and Guatemala 180173, exchange); 6 plants from Mexico and Guatemala (181778); 49 plants from Eastern United States and Japan (182720, exchange); (through Dr. Aaron J. Sharp) 216 plants from Mexico (181780).
- TESKEY, MRS. P. H., Buffalo, N. Y.: Approximately 1,040 fresh-water snails from Williamsville, N. Y. (181380, 182338).
- TEUNISSON, JOHN N., Washington, D. C.: 1 Harrison and Schnitzer lens patented July 14, 1862, and 1 shutter mechanism (182387).
- TEXAS, UNIVERSITY OF, Austin, Tex.: 27 plants (180738, exchange); 32 grasses from Texas (181537); 13 grasses from Oklahoma and Colorado (181836); (through Gordon Gunter) 6 fishes from Platte River near North Platte, Nebr., collected March 1947 (181281).
- TEXAS COLLEGE OF ARTS AND INDUSTRIES, Kingsville, Tex.: 3 grasses (180712, exchange).
- THOMAS, DR. H. DIGHTON. (See under British Government, *British Museum (Natural History)*.)
- THOMPSON, CAREY R., Key West, Fla.: 6 plants from the Tortugas (183150).
- THRASH, DOX, Philadelphia, Pa.: 53 prints for special exhibition during November 1948 (180785, loan).
- THURMAN, D. C., JR. (See under Federal Security Agency, *U. S. Public Health Service*.)
- TIERNEY, J. Q., Coral Gables, Fla.: 1 echinoderm (179865). (See also under University of Miami, *Marine Laboratory*.)
- TIMBERLAKE, Prof. P. H. (See under University of California, *Citrus Experiment Station*.)
- TINKER, SPENCER, Honolulu, T. H.: 2 mollusks from Oahu, T. H. (180562, 181854).
- TITTERINGTON, DR. P. F., St. Louis, Mo.: Skeletal remains of 39 individuals

- excavated from Indian mounds in Jersey and Calhoun Counties, Ill. (182696).
- TOLMAN, RUEL P., Washington, D. C.: 9 etchings and 1 drypoint by donor (180315).
- TOTTEN, J. E., Detroit, Mich.: 5 weapons of offense and defense collected in Abyssinia, including cavalry sword and sheath, a round cavalry shield of buffalo hide, an elliptic cowhide shield, and 2 spears (183166).
- TOWNES, Dr. HENRY, Raleigh, N. C.: About 50 phyllopoas (180581).
- TRANGARIS, Sgt. JOHN, Washington, D. C.: An illustrated miniature history of Frederick the Great in the Silesian wars, 1740-1763, in silver case bearing the maker's mark: I. M. Morikof er, MDCCLVIII (1759) (179974).
- TRAUTH, Dr. FRIEDRICH, Vienna, Austria: (Through Francis Newlands Johnston) 80 Triassic invertebrate fossils, mostly ammonites from the Austrian Alps (181927, exchange).
- TRAUTMAN, Dr. MILTON B., Put in Bay, Ohio: 1 purple sandpiper (181311).
- TREASURY DEPARTMENT, U. S., *Bureau of the Mint*, Washington, D. C.: 2 bronze medals commemorating the inauguration of President Harry S. Truman in 1949 (181845); 28 United States coins struck at the Philadelphia, Denver, and San Francisco mints during the year 1948 (182082); galvano of President Franklin Delano Roosevelt in bronze (182266); 18 specimens of the Booker T. Washington half-dollar struck at the Philadelphia, Denver, and San Francisco mints in 1947, 1948, and 1949 (182333).
- TRECHMAN, C. T., Durham County, England: 81 invertebrate fossils from the Permian of England (181236, exchange).
- TRESSLER, Dr. WILLIS L., College Park, Md.: 20 microscope slides of type ostracods (180802).
- TRUITT, Dr. R. V. (See under State of Maryland.)
- TRUMAN, President HARRY S., Washington, D. C.: 17 silver vessels in specially designed metal-shod wooden boxes, originally presented to Franklin Delano Roosevelt by the Government of Tibet; the collection includes 2 butter lamps and stands, 4 teacup stands and covers, 2 bowls for grain offerings, 1 teapot, and 2 beer mugs (180767); black-figured Attic lecythus presented to the President by a Greek delegation as a token of gratitude from the people of Greece, and a marble slab with dedicatory inscription to President Truman in ancient Greek (182607, loan).
- TSUMEB CORPORATION, LTD., New York, N. Y.: (Through H. DeWitt Smith) 1 mineral, germanite, from Tsumeb, Southwest Africa (181868).
- TUCKER, Dr. GORDON H. (See under National Military Establishment, *Department of the Navy*, U. S. Navy *Electronics Laboratory*.)
- TUCKER, JOHN F., Washington, D. C.: 1 No. 4 D. D. Home Medical Apparatus, a device for home treatment of ailments with use of electricity, and 1 pill machine (183168).
- TURNER, Dr. ARTHUR R. (See under National Military Establishment, *Department of the Army*.)
- TURNER, Mrs. CARLYLE, Popes Creek, Md.: 1 copperhead from Faulkner, Md. (183131).
- TURNER, S. F., Tucson, Ariz.: 1 vial of olivine and garnet sand from Buell Park, near Fort Defiance, Ariz.; 1 lot of feldspar crystals and 1 lot of quartzoids from 2 miles southeast of Globe, Ariz. (180782).
- UHLER, F. M. (See under U. S. Department of the Interior, *Fish and Wildlife Service*.)
- UHLER, FREDERICK W., Hibbing, Minn.: Bone harpoon head from bottom of Rabbit Lake, sec. 29, T. 47, R. 28, Crow Wing County, Minn. (179973).
- ULKE, Dr. TITUS, Washington, D. C.: 1 spider collected at Fort Belvoir, Va., on September 16, 1948, by donor (180557); 1 phanerogam from West Virginia (182992).
- UNDERHILL, BRADFORD B., State College, Pa.: 1 color transparency of a multi-channel oscillograph record which received an honorable mention award in the First International Photography-in-Science Competition (181809).
- UNGS, Dr. D. H., Dyersville, Iowa: 6 amphipods from a spring near Dyersville (182917).
- U. S. COMMERCIAL Co., Washington, D. C.: 25,000 miscellaneous insects, 1,173 spiders, 2 skinks, 3 lizards, 1 small snake, 13 shrimps, 67 sowbugs, 3 snails, 7 fishes, 87 diplopods, 12 chilopods, and 50 scorpions, collected in the South Pacific in 1948 by Dr. H. K. Townes and R. G. Oakley, accompanying the expedition (181451).
- U. S. ORDNANCE Co., Washington, D. C.: (Through A. Y. Leech, Jr.) A Benet-Mercie 30-caliber automatic machine rifle, 1909 model, and 1 clip of inert cartridges, also 4 pamphlets (179958).
- UNIVERSIDAD DEL CAUCA, Popayán, Cauca, Colombia: 94 plants from Colombia (181752); (through Reinaldo Pfaff) 25 insects from Colombia (179389).

- UNIVERSIDAD NACIONAL, *Facultad de Agronomía*, Medellín, Colombia; 3,164 plants from Colombia (180941, 183088, exchange-gift); 2,690 plants from Colombia (182321, 182322).
- UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS, Lima, Peru: 16 lichens from Morro Solar, near Lima, Peru (180831).
- UNIVERSITETETS BOTANISKE MUSEUM, Oslo, Norway: (Through Dr. Per Størmer) 293 lichens from Greenland (182164, exchange).
- UNIVERSITETETS MINERALOGISKE OG GEOLOGISKE MUSEUM, Copenhagen, Denmark: (Through Dr. Christian Poulsen) 12 Silurian brachiopods from Greenland (181315, exchange).
- UPPSALA, UNIVERSITY OF, *Institute of Systematic Botany*, Uppsala, Sweden: 56 plants from southwestern Africa (182994, exchange).
- URIBE URIBE, Dr. LORENZO, Bogotá, Colombia: 83 plants from Colombia (180380, 182165, 183060).
- UTAH, UNIVERSITY OF, Salt Lake City, Utah: 1 fern isotype (182489).
- UTAH SCENIC STONE CORPORATION, St. George, Utah: (Through Clarence Force) 1 slab of sandstone, "Utah Picture Stone," from St. George (181581).
- UTAH STATE AGRICULTURAL COLLEGE, Logan, Utah: (Through Dr. George F. Knowlton) 1 holotype specimen of fly (180033); 7 caddisflies (181196); 2 flies, type and allotype (181564); 27 bugs (181583).
- VAN BOVEN, J. K. A., Roermond, Netherlands: 108 ants (180986, exchange).
- VAN CLEAVE, Dr. HARLEY J., Urbana, Ill.: 12 slides comprising types of 5 new species of helminths (181848).
- VANDERBERG, W. O., Muskegon, Mich.: 8 mineral specimens, consisting of germanite, simpsonite, etc., and 1 meteorite (Hoba Iron) from Southwest Africa (180270).
- VAN DER FEEN, Dr. TERA, Amsterdam, Netherlands: 30 lots of marine and land mollusks (182621, exchange).
- VAN DER KUYP, E., Willemstad, Curaçao: 13 fresh-water snails from Curaçao (180273).
- VAN DER VECHT, Dr. J., Buitenzorg, Java: 33 wasps, representing 8 species in the family Vespidae (180692); 8 wasps, representing 2 genera and 4 species (182834, exchange).
- VAN DEURS, Capt. GEORGE, U. S. N., Alexandria, Va.: Inkwell used by Abraham Lincoln during his administration as President of the United States, presented to the Rev. George Van Deurs by Elizabeth Keckley, personal maid and seamstress of Mrs. Lincoln (181810).
- VAN DYKE, Dr. E. C. (See under California Academy of Sciences.)
- VAN EMDEN, Dr. F., London, England: 531 beetles (181376, exchange). (See also under British Government, *Commonwealth Institute of Entomology*.)
- VARGAS C., Prof. CESAR, Cuzco, Peru: 77 plants from Peru (179903, exchange); 4 grasses from Peru (181416).
- VENMANS, Dr. L. A. W. C., Bladel, Netherlands: 2 lots of mollusks from the Dutch East Indies (180093).
- VERRILL, A. HYATT, Lake Worth, Fla.: 6 lots of marine mollusks from the West Indies (180200); 1 marine mollusk from Florida (180698); 2 marine mollusks from Dominica, British West Indies (182320, 183015); 2 marine mollusks (182899).
- VILELA, Dr. HERCULANO, Lisbon, Portugal: (Through Dr. L. Walford) 1 shrimp (181872).
- VINTON, KENNETH W., Balboa Heights, Canal Zone: 1,392 miscellaneous insects, spiders, scorpions, and centipedes, 29 shells, and 2 lizards from the Galápagos Islands (180882).
- VOGT, GEORGE, College Park, Md.: 15 beetles (179962).
- VOIGT, Dr. EHRHARD, Hamburg, Germany: 29 Upper Cretaceous bryozoans from Germany (182380); (through Dr. R. S. Bassler) 146 assorted invertebrate Devonian fossils from Rhine Valley, Germany (182499).
- VON BONDE, Dr. CECIL, Capetown, South Africa: 1 new species of rare deep-water genus of mollusk from off Natal, South Africa (180697).
- VON DER PORTEN, Mrs. AMY. (See under Institute of Jamaica.)
- WAERING, Dr. ERIK N. K., Tulsa, Okla.: 2 Ordovician trilobites from vicinity of Tulsa (180486); 7 invertebrate fossils from Silurian of Hardy County, W. Va. (181442).
- WAGSTAFF, R. E., Herndon, Va.: 2 fossil fishes from Triassic shales 3 miles northwest of Haymarket, Prince William County, Va. (182830).
- WALCOTT, FREDERIC C., Norfolk, Conn.: 612 birdskins from Nyasaland (181440).
- WALCOTT FUND, Smithsonian Institution: 842 ammonites and 535 brachiopods from Jurassic rocks of Sicily and 252 Permian invertebrates from Sicily (179820); 262 corals and bryozoans from Middle Devonian deposits of southwestern Ontario (180037); 40,000 Devonian, Mississippian, Pennsylvanian, and Permian invertebrate fossils from Arizona, New Mexico, Texas, and Oklahoma (180195); about 100 blocks of Permian limestone

- containing silicified fossils from Glass Mountains of Texas and about 25,000 invertebrate fossils from Devonian, Mississippian, Pennsylvanian, Permian, and Cretaceous of New Mexico, Texas, and Oklahoma (180443); 500 Permian fossils from Sicily (180508); approximately 300 fossil mammals, collected by Dr. C. L. Gazin, from Oligocene beds at Pipestone Springs, Mont., and from the Almy Paleocene and Knight Eocene beds of western Wyoming (180548); approximately 400 fossil fishes and reptiles and 50 invertebrate fossils, collected by Dr. D. H. Dunkle and A. C. Murray from the Upper Cretaceous Pierre and Fox Hill formation of Wyoming and the Eocene Green River Shale formation of Utah (180677); lower jaws and associated fragments of an unknown teleostean fish from the Cretaceous Niobrara formation, southeast of Russell Springs, Kans. (180687); approximately 2,500 Ordovician invertebrate fossils from the Appalachians, collected by Dr. G. A. Cooper (180815).
- WALFORD, Dr. L. (See under Dr. Herculano Villela.)
- WALKER, Dr. E. H., Washington, D. C.: 19 plants from local area and the Shenandoah National Park, Va. (181493); 1 land mollusk from New Zealand (182940).
- WALKER, ERNEST P., Washington, D. C.: 5 short-tailed shrews (182393).
- WALKER, J. B., Washington, D. C.: 21 plants collected near New Baden, Tex. (180222).
- WALKER, Dr. J. F., Hattiesburg, Miss.: 18 marine invertebrates, together with algae, fishes, mollusks, and echinoderms (180378).
- WALKER, MARION. (See under Marguerite Davis.)
- WALKLEY, LUELLA M., Silver Spring, Md.: Specimen of amethyst from near Burnt Mills, Montgomery County, Md. (180546).
- WALKOM, Dr. A. B. (See under Australian Museum.)
- WALTERS, VLADIMIR, Fairbanks, Alaska. (See under National Military Establishment, *Department of the Navy, Office of Naval Research.*)
- WARD, LYND, Leonia, N. J.: 30 wood engravings by Lynd Ward for special exhibition May 23 through June 19, 1949 (183181, loan).
- WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: 2 specimens of percyllite from Lima, Peru, 1 sylvanite from Ingram mine, Boulder County, Colo., and 1 specimen of lithiophilite from Rio de Janeiro, Brazil (180013, exchange): (with cooperation of Canfield Fund) 10 mineral specimens, including andorite, benjaminite, gummite, umangite, and vivianite from Finland, South America, and United States (180897, part exchange).
- WASHINGTON, STATE COLLEGE OF, Pullman, Wash.: 2 plants from United States (181831, exchange); 1 grass from Montana (182255).
- WASHINGTON, UNIVERSITY OF, Seattle, Wash.: 5 fresh-water snails from Richland, Wash. (181172); 170 plants from Northwestern United States collected by Dr. C. Leo Hitchcock (182494, exchange).
- Applied Fisheries Laboratory:* (Through Dr. Kelshaw Bonham) Approximately 141 amphipods (180973, 181641); 384 marine invertebrates (4 lots) (181362).
- Oceanographic Laboratories:* (Through Dr. Emery F. Swan) 5 copepods (182680).
- WATSON, PAUL S. (See under Maryland Academy of Sciences.)
- WEBER, GEORGE, Washington, D. C.: 1 fox squirrel collected near Delaplane, Fauquier County, Va. (180696).
- WEBER, Dr. NEAL A., Swarthmore, Pa.: 11 miscellaneous marine worms (180830); skull of grizzly bear from North Dakota (182191); 12 caddisflies from Alaska (182614).
- WELLS, GEORGE THOMAS, Smithfield, Va.: 1 echinoid from a beach between Mogartins Beach and Fort Boykin Beach, James River, Va. (178367).
- WENTWORTH, Mr. and Mrs. JOHN, Chicago, Ill.: (Through Frederick M. Bayer) 7 lots of mollusks from Cat Cay, Bahamas (181015).
- WESTON ELECTRICAL INSTRUMENT CORPORATION, Newark, N. J.: (Through C. L. Ilg) Weston Invercone Incident Light Adapter for Weston Master Universal Exposure Meter (180272); (through John H. Miller) 24 electrical instruments, 32 miscellaneous electronic tubes, and 21 incandescent lamps (181342).
- WEST VIRGINIA UNIVERSITY, Morgantown, W. Va.: 51 plants from Southeastern United States (181108, exchange).
- WETMORE, Dr. A., Washington, D. C.: 3 ticks and 3 fleas taken from a rabbit in Virginia Shenandoah National Park on July 5, 1948, by donor (179825); 2 birds (179828); 1 raccoon, 1 skunk, 1 squirrel, and 1 rabbit from Shenandoah National Park, Va. (180107); 2 mice, 1 mole, and 1 deer skull from Shenandoah National Park (180320, 181392); 1 squirrel and

- 1 woodchuck from Shenandoah National Park (180871); 1 muskrat, 1 deer mouse, and 1 chipmunk from Shenandoah National Park (181014); 1 earthworm found on grounds of the National Museum (181125); 27 birds from Maryland and Virginia (181329, 182078); 2,165 birds from Central United States (181685, deposit); 11 small mammals from Virginia (183184). (See also under Dr. J. J. Murray, and Dr. B. Podtiaguin.)
- WHARTON, Dr. GEORGE W., Durham, N. C.: 2 rats and 1 mole from Cocoa Beach, Fla. (179788); 1 daddy-long-legs (179872).
- WHEELER, BURR. (See under Chile Exploration Co.)
- WHEELER, Prof. G. C. (See under University of North Dakota.)
- WHITE, BURDETTE E., Merced, Calif.: 2 paratypes of beetles (182937).
- WHITE, M. G. (See under U. S. Department of the Interior, *Geological Survey*.)
- WHITEHORN, STANLEY G., Floweree, Mont.: 1 insect from Floweree (181177).
- WHITNEY, ALVIN G. (See under New York State Museum.)
- WHITTARD, Dr. W. F. (See under University of Bristol.)
- WHITTEN, HORACE L., Houma, La.: 3 shrimps (182650).
- WILLEY, Dr. GORDON R. (See under Smithsonian Institution, *Bureau of American Ethnology*.)
- WILLIAMS, Dr. ALWYN, Washington, D. C.: 85 Ordovician brachiopods from Wales (180688).
- WILLIAMS, Mrs. F. A., Nigeria, West Africa: 14 plants from Sugu Plateau, British Cameroons (182323).
- WILLIAMS, HAROLD L. (See under Prof. Warren D. Mateer.)
- WILLIAMS, Dr. JAMES STEELE. (See under U. S. Department of the Interior, *Geological Survey*.)
- WILLIAMS, LUCIA K., Washington, D. C.: Tobacco pouch, stone pipe bowl, and incised German silver ornament collected by donor's father, Lt. William M. Williams, 3d, U. S. Infantry, from Indians of Southern Plains, 1867 to early 1880's (183165).
- WILLIS, Dr. EDWIN R., Philadelphia, Pa.: Photograph of yellow-fever mosquitoes responding to odor of a man's arm at the right-hand port of an insect olfactometer (181116).
- WILSON, Mrs. MILDRED S., Seattle, Wash.: 80 crustaceans (179928).
- WINFORD, Mrs. T. E., Dallas, Tex.: 1 land mollusk from Waco, Tex. (179-987); 6 fresh-water snails from Bexar County, Tex. (181023).
- WING, MERLE, Raleigh, N. C.: 1 ant, a new female holotype (180468).
- WIRTH, WILLIS W., Washington, D. C.: 23 flies, including types (183096).
- WISCONSIN, UNIVERSITY OF, Madison, Wis.: 54 plants from North America (183086, exchange).
- WITTE, WILLIAM H., Riegelsville, Pa.: 2 plants from Pennsylvania (181061).
- WOLCOTT, GEORGE N., Rio Piedras, Puerto Rico: Bullfrogs, introduced into Puerto Rico from Florida (182731).
- WOLFE, Col. L. R., San Francisco, Calif.: 85 birds from Korea (179671, 180388); 40 birds and 14 mammals from Korea (181162, 181643).
- WOODFORD, Prof. A. O. (See under Dr. Edgar H. Bailey.)
- WOODHOUSE, Prof. C. D., Santa Barbara, Calif.: 3 augelite crystals from Champion Sparkplug mine, Mono County, Calif. (179946, exchange); 3 minerals, 2 lazulites and 1 andalusite, from Champion Sparkplug mine (182273, exchange).
- WOODRING, Dr. W. P. (See under Dr. U. S. Grant and U. S. Department of the Interior, *Geological Survey*.)
- WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.: (Through Dr. Louis W. Hutchins) 63 crustaceans and 1 cephalopod (181950).
- WOOLF, DONALD O., Washington, D. C.: 1 Premo B 4 by 5 inch view camera with 2 plate holders (182031).
- WOOLSEY, HEATHCOTE M., Kent, Conn.: 9 mollusks from Jamaica (183016, exchange).
- WRIGHT, L. M., Enterprise, Fla.: Approximately 320 marine and land shells from Bermuda, also Pleistocene fossil shells (164972); 19 marine mollusks from Biscayne Bay, Fla. (181757).
- WRIGHT, ORVILLE, Estate of, Dayton, Ohio: The original Wright Brothers' aeroplane, invented and built by Wilbur and Orville Wright and flown by them at Kitty Hawk, N. C., December 17, 1903 (181390, deposit).
- WYOMING, UNIVERSITY OF, Laramie, Wyo.: 46 plants from Wyoming (180763, exchange); 29 plants from United States (181830, exchange).
- YALE UNIVERSITY, New Haven, Conn.: (Through D. R. Crandell) 2 complete specimens of percid fish from an unknown deposit 10 miles southwest of Ree Heights, Hand County, S. Dak. (180466, exchange). (See also under National Geographic-Yale University-Smithsonian Institution Expedition to Nepal.)

- Osborn Botanical Laboratory*: 26 grasses from Peruvian Andes (182241, exchange).
- School of Forestry*: 18 tropical American plants (180794, exchange); 1 plant from Guatemala (181302); 43 plants from Brazil and Honduras (181753); 6 plants from Panama (182309); 1 plant from Venezuela (182860).
- YASUMATSU, DR. KEIZO. (See under Kyushu University.)
- YOCHELSON, ELLIS, Clinton, Md.: 219 Mississippian invertebrate fossils from the Fern Glen and Northview (?) formations of Missouri (179869).
- YOUNG, DR. FRANK N. (See under University of Florida.)
- YUNKERS, ADJA, New York, N. Y.: 17 prints (woodcuts and monotypes) for special exhibition during December 1949 (181115, loan).
- ZAYAS, FERNÁNDO, Habana, Cuba: 3 beetles from Trinidad (183006).
- ZETEK, JAMES, Balboa, Canal Zone: Wood specimen of matasarno from the Galápagos Islands (180942).
- ZIMMERMAN, E. C. (See under Bernice P. Bishop Museum and Hawaii Sugar Planters' Association.)
- ZOOLOGICAL MUSEUM, Amsterdam, Netherlands: (Through Dr. L. F. de Beaufort) 3 paratypes of fishes from northern point of Inhaca Island, Delagoa Bay, South Africa (181224, exchange).
- ZOOLOGISKA INSTITUTIONEN, Uppsala, Sweden: (Through Dr. A. Holm) 14 type alcyonarians (181299, exchange).

PUBLICATIONS ISSUED BY THE UNITED STATES
NATIONAL MUSEUM DURING THE FISCAL YEAR 1948-49

REPORTS

Report on the progress and condition of the United States National Museum for the fiscal year ended June 30, 1948. 8vo, pp. i-iii, 1-127. January 25, 1949.

BULLETINS

Bulletin 195. Life histories of North American nuthatches, wrens, thrashers, and their allies. Order Passeriformes. By Arthur Cleveland Bent. 8vo, pp. i-xi, 1-475, 90 pls. July 7, 1948.

Bulletin 196. Life histories of North American thrushes, kinglets, and their allies. Order Passeriformes. By Arthur Cleveland Bent. 8vo, pp. i-viii, 1-454, 51 pls. June 28, 1949.

PAPERS PUBLISHED IN SEPARATE FORM

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FROM VOLUME 29, CONTRIBUTIONS FROM THE UNITED STATES
NATIONAL HERBARIUM

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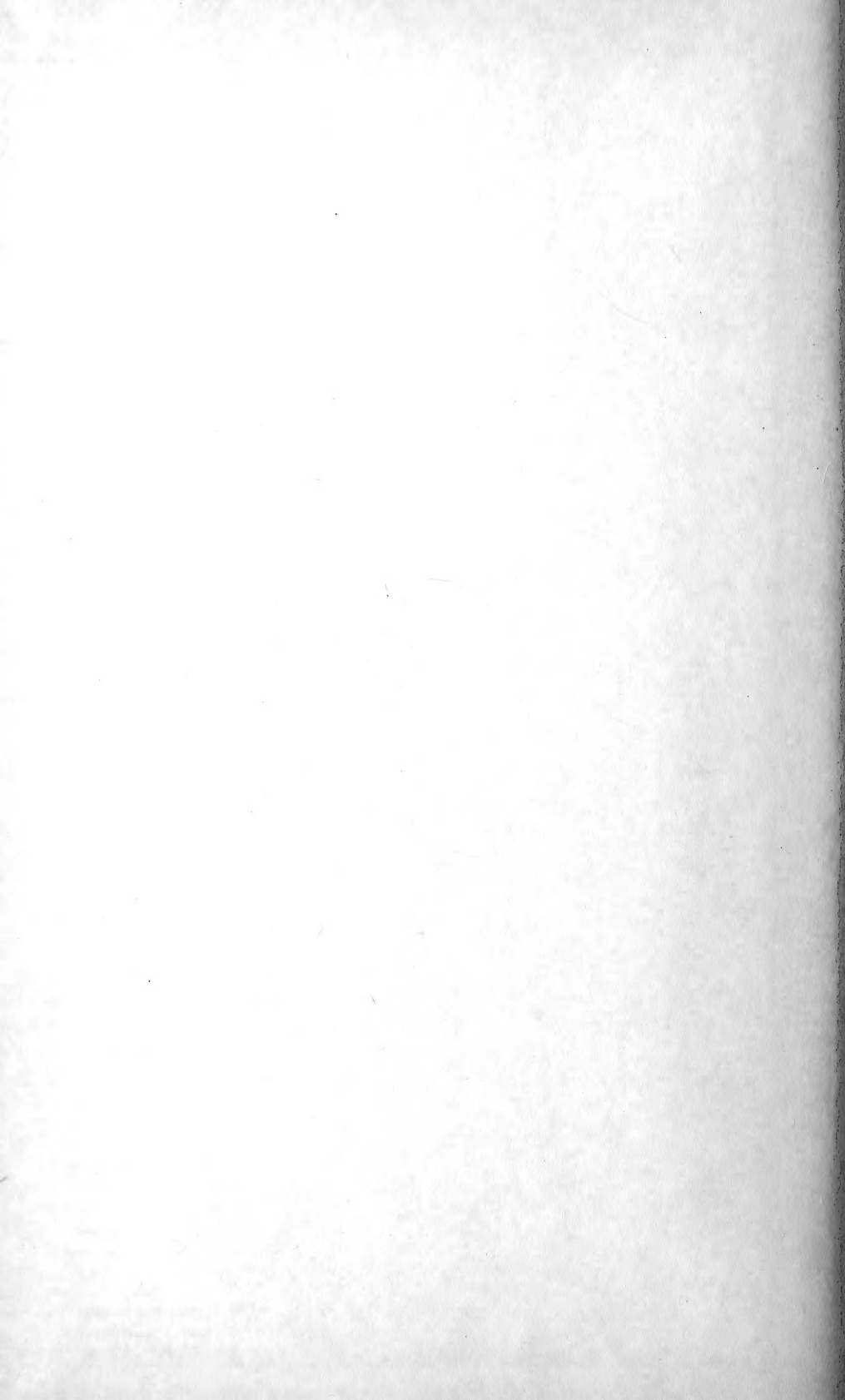
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